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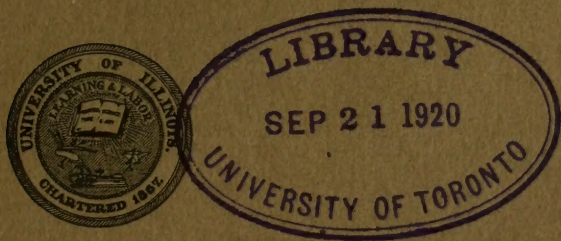
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UNIVERSITY OF ILLINOIS

Issued From The
HIGH SCHOOL VISITOR'S OFFICE

PROCEEDINGS OF THE HIGH SCHOOL CONFERENCE OF NOVEMBER 20, 21 and 22, 1919

Edited and Compiled by the
High School Visitor



PUBLISHED BY THE UNIVERSITY OF ILLINOIS
URBANA

THE 1920 CONFERENCE WILL BE
NOVEMBER 18, 19 AND 20

UNIVERSITY OF ILLINOIS

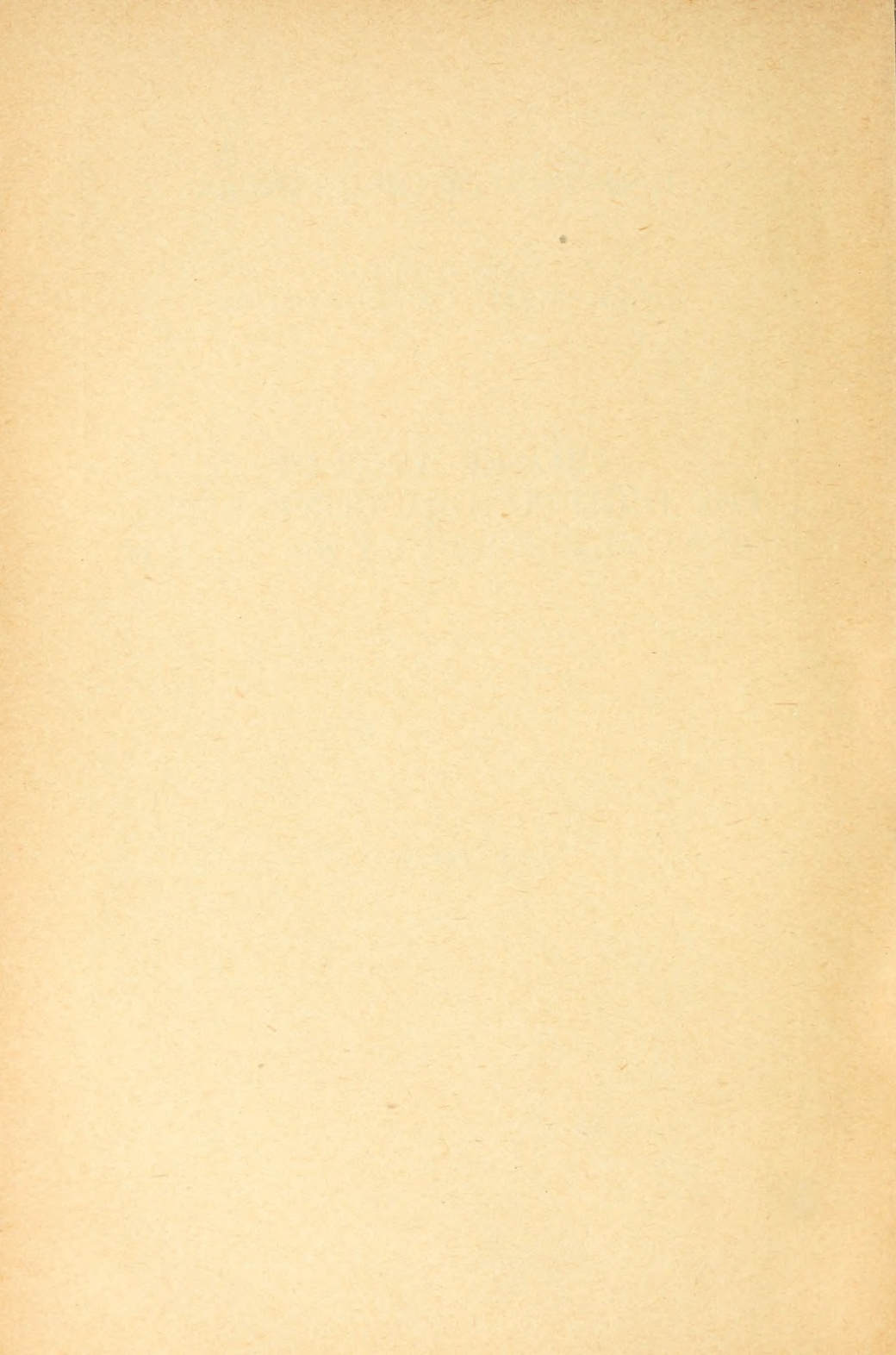
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1920



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CONFERENCE COMMITTEES

General Conference Committee:

H. A. Hollister, University, Chairman, and Director of the Conference; J. Calvin Hanna, State Department, Springfield; H. V. Canter, University; C. E. Chadsey, University; E. C. Hayes, University; A. P. Johnson, Urbana; W. W. Earnest, Champaign; (The above constitute the executive committee); W. L. Goble, Elgin; H. F. Crosby, Paris; J. H. Whitten, Chicago; Mima Maxey, Normal; I. L. Rogers, Waukegan; S. D. Faris, Carthage; Florence H. Churton, University; H. D. Widger, Charleston; W. E. Andrews, Benton; Erwin Touve, Marion; W. T. Belts, Carbondale; Blenda Olson, Macomb; J. Lawrence Erb, University; Louise Freer, University; T. M. Barger, Normal; M. L. Flaningam, Urbana.

Administrative Section:

W. L. Goble, Elgin, Chairman; W. R. Spurrier, Princeton; R. G. Beals, Taylorville; H. B. Black, Mattoon, Secretary-Treasurer.

Agriculture Section:

H. F. Crosby, Paris, Chairman, 1922; D. H. Wells, Litchfield, 1920; T. W. Clarida, Centralia, 1921; A. W. Nolan, Springfield, 1920; D. L. Reid, University, Secretary, 1922.

Biology Section:

J. H. Whitten, Chicago, Chairman, 1921; H. B. Shinn, Chicago, 1920; Clarence Bonnell, Harrisburg, 1922.

Classics Section:

Mima Maxey, Normal, Chairman, 1920; Helen A. Baldwin, Carbondale, 1922; Julia F. Evans, Maywood, Secretary, 1921.

Commercial Section:

I. L. Rogers, Waukegan, Chairman, 1920; H. F. Ford, Springfield, 1922; N. A. Weston, University, 1921; L. C. Bell, Bridgeport, Secretary, 1920.

County Superintendents' and Village Principals' Section:

S. D. Faris, Carthage, Chairman, 1920; W. A. Hough, Belleville, 1922; O. Rice Jones, Paris, 1921; C. H. Watts, Urbana, 1921; W. S. Booth, Springfield, Secretary.

Domestic Science Section:

Florence H. Churton, University, Chairman, 1920; Isabel Bevier, University, 1920; Kathleen Gaynor, LaSalle, 1922; Helen Murphy, Decatur, 1922; Emily Frake, Chicago, 1921; Anne Stoker, Centralia, 1921.

English Section:

H. D. Widger, Charleston, Chairman, 1922; Bess Baker, Maywood, 1922; B. C. Richardson, Alton, 1920; Olive Bear, Decatur, 1920; Alice Bidwell, Freeport, 1921; Bess East, Champaign, 1921.

- Geography Section: W. E. Andrews, Pana, Chairman, 1921; Alyda C. Hanson, University, 1920; F. W. Cox, Flora, 1922.
- Manual Arts Section: Erwin Touve, Marion, Chairman, 1920; Mrs. Nellie Wall, Danville, 1921; Edna Gifford, Charleston, 1921; L. A. Tuggle, Danville, 1922; F. F. Stables, Mt. Vernon, 1922; C. H. Dalton, Lovington, 1921; Rachel L. Skinner, Champaign, 1922; H. C. Mohler, Decatur, Secretary, 1920.
- Mathematics Section: W. T. Felts, Carbondale, Chairman, 1922; Jessie Brakensiek, Quincy, 1920; C. M. Austin, Oak Park, 1921; Velda Bamesberger, Urbana, Secretary, 1920.
- Modern Language Section: Blenda Olson, Macomb, Chairman, 1922; John D. Fitz-Gerald, University, 1920; Johanna H. Doniat, Chicago, 1921.
- Music Section: J. Lawrence Erb, University, Chairman, 1922; L. Louise Bear, Decatur, 1920; Mrs. Homer E. Cotton, Kenilworth, 1920; Mabel Glenn, Bloomington, 1921; Edna King, Joliet, 1921; Mrs. Elizabeth McNair, Mattoon, Secretary, 1922.
- Physical Education Section: Louise Freer, University, Chairman, 1920; Major J. L. Griffith, University, 1920; Anna Lue Hughitt, University, 1920; Marjorie Hull, Oak Park, 1920.
- Physical Science Section: T. M. Barger, Normal, Chairman, 1920; B. S. Hopkins, University, 1921; S. Aleta McEvoy, Rockford, Secretary, 1922.
- Social Science Section: M. L. Flaningam, Urbana, Chairman, 1920; U. S. Parker, Quincy, 1921; P. V. B. Jones, University, Secretary, 1922.
- Interlocking Committees:
1. *Biology and Agriculture*: J. L. Pricer, Normal, Chairman; W. E. Andrews, Pana; L. F. Fulwiler, Mt. Pulaski.
 2. *Languages*: John D. Fitz-Gerald, University, Chairman; J. Calvin Hanna, Springfield; Florence Skeffington, Charleston.
- Committee for the Correlation of Sciences: *Agriculture*, D. H. Wells, Litchfield, A. W. Nolan, University; *Biology*, H. D. Waggoner, Macomb, J. L. Pricer, Normal; *Domestic Science*, Ruth Patrick, Hinsdale, Hazel Shultz, Monmouth; *Geography*, Alyda C. Hanson, University, W. E. Andrews, Benton; *Physical Sciences*, F. D. Barber, Normal, A. W. Marker, Decatur, H. J. VanCleave, University, Chairman.
- Central Committee on General Conference Objective: Dean C. E. Chadsey, University; Professor B. R. Buckingham, University; Mr. A. G. Capps, University; Professor H. A. Hollister, University, Chairman.

STATISTICS OF THE HIGH SCHOOL CONFERENCE 1918-19

	1918*	1919
Total attendance	950	2086
Total No. registered	936	2086
Total registration exclusive of the University.....	815	1939
No. Public High Schools represented.....	283	451
No. of High School teachers	748	1778
No. representative of Colleges and Academies.....	24	71
No. representative of Normal Schools.....	13	40
No. representative of School Boards	1	3
No. of County Superintendents	9	24
No. representative of book houses, etc.	20	23
No. of High School teachers whose expenses were paid in full	207	446
No. of High School teachers whose expenses were paid in part	119	425
No. of High Schools represented by delegates whose ex- penses were paid in full or in part.....	167	306
Following is the registration by sections:		
Administrative	189	339
Agriculture	18	74
Biology	31	78
Classics	45	115
Commercial	37	112
County Superintendents and Village Principals.....	35	85
Domestic Science	46	162
English	126	319
Geography	8	13
Manual Arts	27	61
Mathematics	80	153
Modern Language	52	73
Music	27	79
Physical Education	13	27
Physical Science	49	99
Social Science	64	106
No section given.....	89	44
	936	1939

* This low attendance in 1918 was due to the influenza.

PART I

GENERAL SESSIONS

1. GENERAL BUSINESS

The General Conference Committee held its annual meeting on Thursday, November 20th, at 4 P. M. Plans for the coming meeting were discussed. The chairman presented for consideration by the sections the advisability of breaking up the larger sections into smaller groups for conference under expert leadership for one half of the day on Friday. Chairmen of section committees were asked to try this plan, where practicable, for next year.

A more hearty cooperation of the sections in the general meetings and the larger plans for the Conference are urged. A message to the Sections was presented by the Director with the request that it be read at the section meetings.

2. THURSDAY EVENING

The first general session of the 1919 Conference was convened at 7:30 P. M. Thursday evening. The program opened with a brief concert by the University Band under the direction of Professor A. A. Harding. The music was much appreciated by the audience of teachers which was larger than usual for the first session. Director Harding took occasion also to speak of his desire to cooperate with the high schools in giving opportunity for students to develop talent as musicians in high schools to pursue their musical training further in connection with his organizations here at the University.

The Director of the Conference then introduced Professor W. S. Monroe, of the Bureau of Educational Research, as chairman for the evening. Professor Monroe spoke briefly of the work he was entering upon with the Bureau and of his desire to serve the schools of the State.

Professor H. A. Hollister, Director of the Conference, followed with a brief paper on **Conference Objectives and How to Attain Them**. His paper follows:

In the early announcements of this Autumn series of High School Conferences we persistently emphasized the fact that this was a "working organization" and not just another "teachers' meeting." This was certainly no bid for a large mass meeting; yet in spite of this insistent call for workers the attendance grew apace. Starting with about 75 in 1905 the Conference grew, in the first five years, to a registration of 660; and in the first decade it reached a registration of 1286. For our last normal session of 1917 it rose to the 1700 mark. Many have been the friendly and complimentary remarks which have come to us of the high character of our Conference and the good work it was doing for education.

Yet in spite of all this phenomenal growth and the good things that were being accomplished by the real workers of the Conference your Director has realized, with increasing apprehension, certain weaknesses that were threatening the vitality of our organization. We had thus far pretty successfully combatted the development of various side-meetings of more or less parasitic character which have devitalized so many of our great educational gatherings. But still there were unfavorable and disquieting symptoms.

For one thing the organism was threatened with "obesity," it was taking on too much adipose tissue for the strength of its vitalizing organs. The sectional groups, intended primarily for real conference work, were becoming so large as to constitute separate conventions, thereby losing their essential qualities as affording opportunity for general participation in the discussion of the more intimate problems of the class room and the administrative office.

At the same time a feeling seemed to grow to the effect that the general sessions were a thing for the few, especially of the administrative class, and not worth "staying over for" as far as the departmental teacher was concerned. In this way the plans and aims of your general committee were not carried over to the real conference body to the extent necessary for their full attainment.

To put it in the language of an expressive social phrase the Conference was "all dressed up and no place to go." It was this state of things that found us face to face with the demands for reconstruction inevitably following the world-war. So in the years of the great pestilence and the signing of the armistice your Director launched what may perhaps be considered the real objective of this Conference. By your acceptance of this we set up for ourselves a goal that is comprehensive enough to include all our activities, both sectional and general. This objective we have called the universalization of high school education for the children of all the people in Illinois.

In order to advance successfully towards this objective we found that many things should be done in order to clear the way and make real progress possible. First, there were needed readjustments to be made in the high school curriculum and in the curriculum of the schools leading to it. Second, existing conditions for the training and supply of teachers needed to be thoroughly canvassed with a view to providing for any deficiencies that might appear. Third, the provision of schools, either part time or all year, for those compelled by economic conditions to be bread-winners would have to be carefully studied and provided for. Fourth, the problem of extension and enforcement of compulsory attendance to include the high school period must have attention. And fifth, we must be sure that there were in the state a sufficient number of normally conditioned high schools and so distributed as to make attendance equitably feasible to all. If we add to this a careful survey of methods as affecting the economy, sequence, and effectiveness of instruction we readily see that we shall have here an objective that may easily comprehend all that such an organization can ever hope to accomplish.

Thus without materially changing the real character of our work we have set up a series of minor goals leading to the larger general one. Like all educational goals these are only tentative and subject to the shifts and changes which time is sure to bring in all human affairs. By keeping this conception in mind we may avoid setting up conditions as a result of our studies too static to yield adaptively to the normal flux of social conditions and of the institutions which should minister to the resultant social needs.

One year has elapsed since this objective was announced and adopted by the Conference. A number of committees were created for initiating and organizing the work. The progress that has been made will be indicated as the reports are presented in our general sessions and in the sections. Out of the year's experience have come some results which may not appear in these reports. In our presentation of the problem last year we emphasized the necessity of deliberative study and investigation along the lines of our committee assignments. This necessity has not seemed apparent to all committees. Early in the

year it developed that legislation was being sought at once on one of the most vital problems, and this legislation was secured. As a result we now have in the statutes of the state a mandatory law providing for the establishment of continuation schools, progressively, for a minimum of compulsory attendance up to and including the eighteenth year.

This law is not generally known or understood. It has back of it no general sentiment of acceptance. The character of the schools most desirable in the situation is not clearly defined. There is serious danger that in a number of situations where such educational facilities are most needed such schools can not be financed, nor is there any adequate provision whereby the law may be enforced.

Such hasty and unstudied procedure in legislation can not be otherwise than hurtful. It is weakening to our fundamental interests as a free republic. It tends to the discrediting of law and to making more difficult the solution of the problems it was intended to solve. It is for the avoidance of such well intended but too hastily conceived movements that we are urging the lines of thoroughgoing investigation to precede and account for needed legislation and the provision of adequate funds.

To do this we must have committees made up of men and women both willing and able to serve in carrying forward such studies. This is no place to confer honors or to seek recognition or publicity for ourselves or others. Here is an opportunity for a selective group as to general education and enlightenment to prove whether or not expert service can be secured through democratic methods of selection. If personal ambition or preference, if special interests of groups or classes must outweigh the desire to serve the common good, then is the situation indeed desperate. Fortunately from some of our committees the results show that there is indeed some good ground for optimism. But there are too many silent places. Are you willing to leave to the direction of your central committee the necessary readjustments of these committees? And in doing so will you lend your aid by suggesting names of those best trained and qualified for such leadership? (Here the speaker read the list of committees, commenting on the nature of the work involved in each case.)

Here we are reminded of the fact that back of these committee leaders we need a long list of reserves ready for and capable of cooperating with the committee leaders. These we must somehow locate from among the rank and file of teachers and administrators. Will you not help us here? Send to the central committee the names of such persons, as you know them,—men and women of training and insight who know how to attack a given class of problems, who are glad to serve, and who consider these things worth the doing and their accomplishment a sufficient reward.

We need to organize ways and means for creating public sentiment favorable to the things we prepare to do. As soon as definite ground has been established for action along any of the lines leading to our various goals we should get these to the leading men and women of thought and action in our various communities. Principal Sandwick, in his report on Saturday, will have some good points to give you along this line. You should not fail to hear that report.

We have mentioned the fact that to the subjects for study outlined and assigned to committees last year should be added the study of methods as affecting curriculum adjustment, administrative organization, and real economy in education. The suggestion of such a study is clearly indicated in the Director's address of last year. The developments growing out of discussions on curriculum readjustment clearly indicate the need of a separate committee to work, perhaps, in cooperation with the committee on curriculum reconstruction of which Mr. Sandwick is chairman. Will you provide for the appointment of such a committee?

Fellow teachers, I invite you once more to participate in this great service. It is our call to arms. The location of Illinois among the central-western states and the traditionally democratic organization of its school system would seem

to offer a most excellent opportunity to test the possibilities of popular educational accomplishment such as our free institutions and national ideals demand. We believe that such a test, in any adequate sense, has never yet been made. This large organization of our best trained teachers and supervisors, inviting the free cooperation of all classes and institutions in education, furnishes an adequate background of support and makes possible through its organized effort the creation of public sentiment so essential to the success of any formative social movement.

The challenge is to you, and the high call to service. Will you accept it?

At the close of Professor Hollister's paper the following action was taken by a vote of the Conference: (1) That the Central Committee be authorized to recast the committees, filling vacancies and adding members as occasion required.

(2) That a committee be named by the Central Committee for the study of methods as affecting curriculum readjustment, administrative organization, and real economy in education.

(3) In view of the fact that important policies already adopted by the High School Conferences of the University of Illinois, as well as those which may this year be favored, will probably require legislative action to bring them into effect, I have been instructed by the Executive Committee to propose that the Conference request its Director to present from time to time to the Committee on Legislation of the Illinois State Teachers' Association, in such manner as he may deem best, policies relating to high school matters authorized by the Conference, offering and inviting cooperation, to the end that such legislation may be secured as shall promote the efficiency of the high school system of Illinois. I therefore move that the Director of the Conference be requested to act for the Conference in the manner above described in helping to secure needed legislation by the General Assembly of Illinois. (Motion by Superintendent W. W. Earnest.)

Principal John E. Miller gave a brief report of the work of the Committee on Compulsory Attendance of which he was chairman. The report dealt chiefly with the problems which the committee's assignment involves.

The Committee on Extension of High Schools, the Economic High School, and Transportation of Pupils had no report to offer.

3. FRIDAY EVENING

The program opened with a very pleasing group of vocal solos by Miss Olga Leaman, instructor in the School of Music, University of Illinois.

The Director introduced Dean C. E. Chadsey of the College of Education as the presiding officer for the evening. Dean Chadsey spoke of the intimate relationship between the College of Education and the high schools of the State and of the important place which such a college naturally holds in the scheme of popular education.

President David Felmley of Normal University, Normal, Illinois, then gave the **Report for the Committee on Teacher Training**. This report follows:

Report of Committee on Teacher Training

The late C. W. Bardeen in an address upon the Ideal Teacher listed twenty-six characteristics that he should possess, viz.: He must be affable, benignant, courteous, decorous, exact, fervent, genteel, humorous, immaculate, judicious, keen, lenient, modest, neat, orderly, prompt, quiet, robust, scholarly, tranquil, ubiquitous, vigilant, wary, exemplary, youthful, and zealous. Whatever additional qualities you may interpolate into this alphabetic procession will with the list given fall roughly into two classes, *nativ* and *acquired*.

It is true that all qualities and traits develop from affections, sympathies, and impulses that are born with us, and that all develop through exercise into abiding elements of character; yet we may make this distinction, that by the *nativ* qualities of the teacher we mean such as have developed informally through the ordinary experiences of life; the *acquired* qualities are such as have immediate and special relation to the teacher's work. The born teacher is gifted in the first group, the trained teacher in the second.

Our ideal teacher has an engaging personality, which implies a pleasant voice, good manners, taste in dress, good humor, an appreciation of others; he is fond of children and of ministering to them; he is tactful and courteous, resolute and self-reliant, prompt and systematic, conscientious and dependable. He is fond of study, scholarly, and withal skilful in organizing, managing, and teaching.

In the trained teacher we look for ample capital in the form of extensive and accurate knowledge, for careful daily preparation of his work, which means not only the planning of the lesson but the provision of apparatus and illustrative material, and also for evidence of his grasp of the immediate aim of the lesson, as well as of its remote purpose. We expect wise assignment that shall energize the home work and seat work of the pupil; next, skill in handling the class, in questioning, illustration, testing and other teaching devices; we note his standard of discipline, his power to maintain it through his assignments, his attention to details of form and position, his sensitiveness to symptoms of disorder or unhygienic conditions, his promptness and resourcefulness in dealing with emergencies, his personal excellence in the schoolroom arts, writing, drawing, speaking, reading, singing, and the art of good behavior.

Teaching has been with most teachers an empiric art handed down by imitation and perfected by experience. Some knowledge of the subject to be taught has been the legal requirement. Beyond that the young teacher's chief resource has been his recollection of the way in which his own teachers proceeded, until through his successes and failures he has gradually learned what to choose, what to avoid.

Bryce in his American Commonwealth points out as one of the most notable defects of the American people its over-valuation of the ability of the common man, and its correlated under-valuation of the value of training for particular forms of service. The national self-sufficiency is reflected in the story of the young man who when asked if he could play the piano, replied: "I don't know, I have never tried." From village health officers to foreign consuls, we appoint or elect men whose training and qualifications are almost the last thing considered.

Teaching in Illinois has not escaped the consequences of this childlike faith in the sufficiency of native powers. It has been assumed that knowledge of the subject to be taught is all that is needed. A teacher's certificate until recently was granted upon a superficial examination in the common branches. No questions tested knowledge of the problems of managing or teaching. School

boards hav rarely gone behind the teacher's certificate further than to inquire as to the amount of experience the teacher has had. Your committee has felt that it must base its study upon accurate information regarding the preparation of the entire teaching force of the state.

Take, for example, a small group like the teachers of home economics. Where wer they educated and traird? What was the character of that training? What has been their teaching experience? Were they "promoted" from some other type of teaching servis? What is their salary? How many new teachers are needed annually to fill vacancies and to supply newly created positions?

Next, we must investigate the sources of supply for this annual need. What recognized schools in Illinois, public and private, are training teachers of home economics? What has become of their graduates during the past five years? Did they find positions for which they wer traird, or ar they teaching in some elementary school? Does the appointing machinery of the state function effectively in getting its traird teachers into the right sort of jobs? How many teachers were brought in from other states?

This investigation should include all types of teachers and all recognized sources of teachers supply.

The third duty of the committee is to survey the various agencies for teacher training, the scope and efficiency of their work, and to make such recommendations for the better training of teachers in Illinois as their findings may warrant.

Altho the recent changes in the statistical reports of the Superintendent of Public Instruction hav added enormously to the practical value of these reports of students of education, we still ar unable to find there all the data needed for this study. Director B. R. Buckingham of the University of Illinois, a member of this committee, is conducting an inquiry that should yield the exact information needed. It will secure it, if we may have the cordial cooperation of the teachers of the state and especially of the county superintendents. Statistical studies are of little value unless the data obtained are complete and accurate. In this partial report we must use information furnisht by the reports of the state superintendent, sometimes exact information on the point in question, sometimes inferences derived.

Our discussion of the other elements of the problem must be regarded only as a preliminary survey dealing with matters of common knowledge among the school men and women of the state.

In the report of the Superintendent of Public Instruction for 1918, it appears that Illinois outside of Cook County employed 24,456 teachers. Of these 4,638 (19 per cent) wer beginners; 286 of these recruits wer needed because of new positions. Hence 4,352 was the number of vacancies to be filld. This indicates an average term of servis outside of Cook County of about 5.6 years. In Chicago the average term of servis certainly exceeds 10 years.

Of these teachers it appears that about 4% ar graduates of both college and normal school, 12% of college only, 20% of normal school only, 28% are merely high school graduates, making a total of 65% or nearly two-thirds who ar at least high school graduates.

Of the 35 teachers out of every hundred that ar below this level, we find 8 hav attended college, 20 hav attended state normal schools, usually in the summer session, 5 hav attended at least a high school while 3 hav attended only elementary schools. It would be interesting to note how many of these teachers of little schooling ar among the entering group each year, how many ar mature teachers dating from a time of meager educational opportunities. While in the whole state 36 per cent of the teachers ar graduates of college or normal school, in Cook County 64 out of every hundred hav so graduated. In the rest of the state only 24 out of each hundred.

Of the 5476 high school teachers, 10 out of every hundred are graduates of both normal school and college, 54 of college only, 11 of normal school only, while all but 6 of the remaining 25 hav attended these institutions.

The high schools employ about 250 teachers of agriculture, 350 of manual training, 400 of domestic science, 500 of commercial branches, altho it is likely that many of these teach other subjects. The average term of servis of this class is probably less than ten years. New positions ar rapidly appearing, hence it is likely that 40 new teachers of agriculture ar needed each year, 50 of manual training, 60 of home economics, 80 of commercial branches.

Illinois, outside of Chicago, required in 1917-18 about 5100 new teachers. The five state normal schools graduated in 1917, 627, about 12 per cent of the annual requirement. Probably 95 per cent of these engaged in teaching. Some had taught before. Such graduates teach nearly ten years, 50 per cent longer than the average career in teaching, but frequently their later teaching is in other states or in Chicago. To make up the 20 per cent of normal school graduates in the entire teaching force Illinois draws heavily upon the normal schools of other states, notably of Wisconsin, Michigan and Indiana.

I am inclined to think that college-bred teachers do not continue so long in the work as graduates of state normal schools. If they do, an annual accession of 550 from the colleges of this and other states is needed to maintain the present proportion of college graduates, viz., 16 per cent.

Compare these figures, partly conjectural, with accurate statistics from New Jersey. In that state in 1917-18, 2231 new teachers wer employed.

825, or 37 per cent, wer graduates of New Jersey state normal schools.

181, or 8 per cent, wer graduates of New Jersey city training schools.

428, or 19 per cent, wer graduates of normal schools outside of New Jersey.

Total, 64 per cent wer normal school graduates as against probably 14 per cent in Illinois.

505, or 23 per cent, wer graduates of colleges, universities and technical schools, thus making a total of 87 per cent of the new teachers, who wer graduates of a higher institution as against probably 22 per cent in Illinois.

In New Jersey the average term of servis is ten years, about the same as the average of normal school graduates in Illinois.

I hav selected New Jersey for comparison partly because of the fact that accurate statistics ar available, partly because it has enacted recently more progressiv school legislation than any other state east of the Mississippi. It ranks with California, Nevada, and Arizona, with New York and Massachusetts in the salaries paid its teachers.

Why may not Illinois rank with New Jersey? It is a welthier state per capita than New Jersey. The reason is to be found partly in our revenue laws which stil do not afford sufficient funds in many districts; partly in our large rural population with 10,000 one-room schools, governd by boards of directors most of whom consider a teacher's certificate plus experience, the last word in qualifications; partly in the extensiv powers granted local boards who may pay the teacher of lowest qualifications the highest salary if it chooses to do so; partly in the liberty granted these officials to employ the poorest teachers available while wel-qualified teachers may be had; partly in our lax certificating laws, which enable any eighteen-year-old who has completed two years of high school work with the consent of the county superintendent to teach a year without passing an examination. I am reliably informd that there is a large area in one of our western Illinois counties where last year's teachers demanded a radical increase in their salaries. The directors of the various districts, incensed at this manifestation of union labor methods, appeald to the county superintendent, who obligingly secured enuf young people of the required age and two years of high school work, and equipt them with emergency certificates, with the understanding that if they should fail in the November examinations, provisional certificates would be issued for the rest of the year.

The situation cannot be met by increasing the number of state normal schools, nor by raising the salaries of their teachers, nor by any direct grants of funds or new buildings. The great majority of our teachers ar young women who do not intend to continue long in the work. To obtain positions now it is

not necessary to attend any teacher training institution. Why expend the time and money for a small increase in salary for the few years they expect to teach? To raise the standard of certification by requiring even one year of professional preparation beyond the high school under present wage conditions in teaching and other employments, will find hundreds of schools in September without teachers, ultimately to be supplied by the same methods as at present. The fundamental need is that salaries, tenure, and teaching conditions shall be made so inviting that plenty of suitable young people will be attracted to the profession. Then standards may be raised.

Most of our high schools are supplied with teachers of fair education. The State University and the North Central Association have prescribed as a condition of the accredited relation usually four years of college work as a preparation for high school teaching. No ambitious or self-respecting community can endure to be thrown into outer darkness by neglect of these standards. But while the State University may thus coerce high school boards to employ teachers with degrees, where is the high school that undertakes to dictate to the contributing elementary schools the type of teacher that shall be employed? If our normal schools possess the ablest faculties in our land and everything to be desired in the way of buildings and equipment, still, under present employment conditions, they would lack students.

What are the teacher-training agencies in Illinois? First, we have the five state normal schools established by the state for the sole purpose of training teachers for its public schools. They have an aggregate attendance today of 1348 students on the college level, 526 other students in training for teaching who are on the secondary level. These schools with their present faculties and equipment can accommodate 1200 more students. All of these institutions are authorized to grant degrees in education; three of them maintain four-year teachers college courses. Three-fourths of their graduates teach in the graded elementary schools, about one-fourth become teachers or principals in village high schools. A few enter the rural field. Besides these, 7000 of our teachers have attended a normal school without graduating. These are largely to be found in rural schools.

The question is much discussed whether normal schools should prepare high school teachers. As a matter of fact they have in the states of the Middle West furnished from their beginning teachers for the high schools of the smaller towns. The high schools of the larger cities have employed college men and women. The cause lies in the fact that our high schools have developed from two independent origins. In the larger cities they were largely converted academies, or established on that model. The old time academy was let down from the college as its preparatory school and manned by teachers of its own training and ideals. The classical tradition was dominant. But few of the smaller towns of Illinois in 1870 contained organized high schools. The principal teacher of the village school with his assistant generally taught classes in algebra, geometry, rhetoric, general history, physics, physiology, and other sciences, sometimes Latin. Here young people were prepared for teachers' certificates. Gradually a course of study took shape, graduating exercises were instituted, and the history of the local high school began.

About 1890 the State University began to accredit the larger high schools, soon a high school visitor was appointed and high schools of the second type were remodeled to conform to college preparatory standards. The high school ceased to be merely the crown of the local school system. It now began to be questioned whether a normal school graduate was fit to teach in the redirected high school. A full discussion of this question is reserved for next year's report.

The second agency is the city training school for teachers. At the head of this group stands the Chicago Normal College, the old Cook County Normal School, that has played so splendid a part in the educational history of the Middle West. Peoria, Joliet, Danville, Quincy, Streator, Galesburg, Springfield, and other cities have maintained this type of training school. Their num-

ber seems to be diminishing. In the smaller cities a modicum of instruction in psychology, principles of teaching, nature study, art, construction work, singing, and method in the common branches, with much practis teaching has constituted the curriculum. In Chicago, in St. Louis, and other cities of 200,000 or more the organization approaches that of the state normal schools with two important differences. The city training schools prepare for a clearly defined type of servis. Their students will teach a prescribed and uniform elementary curriculum based upon uniform textbooks. The situation calls for specific treatment of a narrow field. The state normal schools offer a broad program with many electivs and prepare their students less definitely for a variety of schools. The observation and practis teaching of the city training school ar usually done in the public schools of the city. The practis teaching is less closely supervised, but is done under ordinary school conditions. Few cities in Illinois ar yet large enuf to maintain a really adequate teacher training school.

Next we hav the departments of education in the State University, in the University of Chicago, and in other collegiate institutions. The colleges and universities hav always educated most of the teachers for the superior secondary schools. But *education* as a subject of study in them dates from 1879. The conviction that any one who knows a subject can teach it stil holds sway in many college circles. The success of the normal schools in the elementary field combined with legislation in many of our states has led colleges generally to establish departments of education. Yet before the adoption of the rule of the North Central Association requiring eleven semester hours of professional study and training, many students wer passing from these institutions to the school room without so much as a look-in upon the department of education.

Whatever opinion may be held upon the exclusiv right of the university and college to prepare high school teachers, there can be no debate upon the proposition that a strong graduate department of education at the State University is a vital factor in an efficient state system of education. Its graduate courses should train superintendents, and teachers for the normal schools. Its investigations should not be limited to the secondary field. Its elementary and secondary school should be above all a school for experiment.

The function of the normal school is to prepare the student for initial efficiency in public school servis. It is hardly practicable in its training school to train teachers how to teach and at the same time introduce new types of organization, curriculum, equipment or instruction quite different from that which wil be furnisht or required in the schools where they ar to go. It is useless to educate the young teacher in advance of the superintendent under whom she is to work. The young normal graduate full of new ideas is likely to hav little influence in transplanting the policies of the training school into city school systems. Hence the normal training school should represent the best curriculum and school procedure that has met with extended approval.

At the university, however, ar to be found mature graduate students, already experient teachers, who can conduct experiments with intelligence and discrimination. Here, too, may be found in the university faculty a sufficient colony of high brows dissatisfied with the public schools to lend their children for experimental classes.

The fourth agency is the training class in the high school. At the present time possibly two-thirds of our rural school teachers receiv their final preparation in the high schools. This condition wil not change soon. Therefore is it not best that the last year of the high school course for such students be given over to a review of the common branches, to studies in educational psychology and the principles of teaching, to special instruction in nature study, agriculture, drawing, singing, and construction, to practis teaching in the local city schools, and to observation of well-managed rural schools? This work if well done will require a special teacher, intelligent, resourceful, broadly educated with thoro professional training and experience in country school teaching. She should receiv a better salary than any other on the high school staff

except the principal. The city school board may hesitate to incur the additional expense for the benefit of remote country districts. Evidently the salary of such special teacher should be paid by the state, as in Minnesota, or partly by the state, the county, and the local district, as in Michigan. With state aid the course of study must meet approved standards, the teacher be approved by the state superintendent, the size of the training class exceed a certain minimum.

Such teacher training in high schools should be regarded as a temporary expedient designed to bridge over until the time when Illinois can adopt standards equal to those of Massachusetts, California, Arizona, Indiana, and New Jersey, when all teacher training shall be above the secondary level. The certificates granted should be limited in duration, good in rural schools, subject to renewal and wider validation after further education in the normal schools.

The danger attending this type of training is that it will withdraw students from the more thoro and extended education and training of the normal schools and that once established it will be hard to discontinue, and lead to a sort of arrested development in the teacher training of the state.

Teacher training classes with state aid exist in Missouri, Kansas, Nebraska, Iowa, Minnesota, Wisconsin, and Michigan. The state aid varies from \$500 to \$1000. The plan is popular in the smaller cities, but not in the largest. Some normal school presidents think the system reduces attendance at the state normal schools, others see the opposite effect. Some county superintendents fear that the high school training will become established as all sufficient. They find it flooding the country schools with town-bred girls ignorant of country life and unable to adapt themselves to rural conditions. Yet with a few discordant voices it may be said that the present system is approved by state officials, normal schools, city and county superintendents, and by the farmers themselves.

Dean Coffman of the University of Minnesota has made for the Sage Foundation a study of the teacher training high schools of that state, the best organized and the best supervised in the Middle West. I think the findings of the survey have not yet been published.

In these four types of institutions the teachers of the immediate future will be trained, they should be provided with adequate equipment of buildings, apparatus, instructors to meet the educational needs of the state. There are few duties of the state more imperative.

"A nation," says Thorndike, "which lets incapables teach it, while the capable men and women only feed or clothe or amuse it is committing intellectual suicide."

DAVID FELMLEY.
J. A. STEVENSON.
P. M. WATSON.
I. M. ALLEN.

The need of more adequate provision for the preparation of teachers for the schools of Illinois was very vividly impressed by the next speaker, Hon. Francis G. Blair, State Superintendent of Public Instruction, and in his usual happy manner. Mr. Blair spoke as follows:

Fellow Teachers:

If one were whitewashing a barn door, one coat might be quite sufficient, but if he were polishing piano timber, several coats might not be out of place: and such an important subject as the training of teachers may well have three different treatments by three different persons on the same evening from the same platform.

For the last few years men high in official position—presidents, governors, congressmen, members of legislatures, politicians of all parties, members of

tax fixing bodies and others have been sitting in reviewing stands as soldiers in uniform have passed before them. They have become accustomed to estimating numbers by the time it takes for these companies, regiments and divisions to pass that point. Somewhat after that fashion let us assemble the state elective officers, the members of the legislature, the leaders in all the political parties, the leaders of the various clubs and associations, the men who sit upon our various taxing boards and revenue commissions along with the officers that have to do with public education upon a great reviewing stand and pass before them the teaching force of Illinois. Let us arrange these teachers according to army regulations, eight abreast, eight paces apart. Let them march at a pace one-half as fast as regular soldiers. There will pass before the reviewing stand at this rate about 1,000 persons every 20 minutes. Let us now say to those upon the reviewing stand: Ladies and gentlemen, we are going to pass before you in review the men and women who are training the children of this great commonwealth, who are laying the foundations of intelligence, character and good citizenship. We wish you to see the kind of qualifications these men and women have who are placed in such important positions. We have arranged them in marching order, beginning with those of least academic and professional training. The banners which these marching teachers bear in their hands will tell the story of the academic and professional preparation which they have made for this important work.

Here they come. The banners of the first group read: "Our academic and professional training does not extend beyond that of the elementary school." (A voice from the reviewing stand: "It is impossible, unthinkable; surely no person is allowed to teach who has not been educated beyond the elementary schools."). Look yourself and you will see that it is all too possible however unthinkable it may seem to you. Here they pass—5 minutes, 10 minutes, 20 minutes—1,015 teachers of Illinois whose academic and professional training does not extend beyond the elementary schools. These are the teachers at whose feet some of the children of a great commonwealth must sit to have their habits of thought and character, their civic point of view shaped and formed.

Now, if you will look, you will see another group approaching on whose banners are written: "We have attended a high school, but have never finished a four-year course."

I know from your expression, ladies and gentlemen, that you think some sort of a make-believe parade is passing before you; that this can not be a reality; that the children of a great commonwealth cannot have been subjected to the instruction of persons with such mediocre attainments. I assure you, however, that this is a real procession; that these are the real teachers; that this very day they are in the schoolrooms of Illinois instructing the children. Watch them as they pass—10 minutes, 20 minutes, 30 minutes, 40 minutes. We have now been sitting upon the reviewing stand one full hour, and you have not seen a single one whose academic and professional training has extended to graduation from a four-year high school. Practically 3,000 teachers have passed before you—about one-eleventh of all the teachers of the state whose educational qualifications do not equal that of a boy or girl who has graduated from a four-year high school.

This new on-coming enthusiastic group you will readily recognize. Their voices, as well as their banners, tell the story. There are 9,631 teachers whose academic and professional education includes but does not go beyond graduation from a four-year high school. We shall sit one hour, two hours, three hours, three hours and fifteen minutes, watching this group pass, and when the last one of these four-year high school graduates has passed our stand we shall have been sitting here for four hours and fifteen minutes watching this teaching army of Illinois pass by, and we shall not have seen a single one in that group whose educational qualifications exceed that of a high school graduate—over 12,000 teachers of a great commonwealth—one-third of all its teaching force—

whose preparation for teaching does not go beyond that of the pupils whom they are to teach.

(Confusion on the reviewing stand, many protesting that they wish to see the actual figures. Statistical reports are passed from one to another, whispered conversations are taking place, expressions of surprise and chagrin are heard on every hand).

Yes, ladies and gentlemen, it is because we believe that you have not been aware of the real situation that we have undertaken this unusual way to let you see the real facts. There is no make-believe about it; there is no hoax; there is no over-statement of the situation. The facts themselves are more humiliating and more disquieting than the panorama that is passing before you.

Now, please attend to the next group which is appearing—a group consisting of 9,627 persons. Their banners also tell the story. They have attended some normal school or college for a longer or shorter time, but have graduated from neither one. You will sit and watch them pass for one hour, two hours, three hours and fifteen minutes, and at the end of that time you will have been sitting upon this reviewing stand seven hours and thirty minutes. You will have seen pass by 22,060 teachers—two-thirds of the entire teaching force and in that time and in that number you will not have seen a single teacher whose academic and professional qualifications have extended to that of graduation from a normal school or of a college.

Would you have been willing to allow an American army to cross the water whose preparation for the work which they were sent to do was as incomplete as that of this army which is passing before you? Would America have dared to risk her honor and reputation upon the field with officers and men as incompletely trained for their work as these are for a vastly more important task?

Now, you will see approaching the best prepared of this pedagogical army. For two hours and fifteen minutes we shall watch a division consisting of 6,871 teachers pass whose banners bear the distinction of graduation from a two-year normal school course.

Following this, a division of college graduates, in number 4,327. The best qualified division of all comes last. It is composed of 1,429 persons who have had both a college and a normal school education.

(A voice from the reviewing stand: "No person should be allowed to teach who is not at least a normal school graduate or a college graduate"). You are right. The greatest crime which is being committed upon the pedagogical high seas today is that committed by a great commonwealth which forces by a drastic truancy law its children to go down to a public school system to sit for six hours out of the day, for nine months out of the year, for twelve years out of their life, at the feet of ill-prepared and incompetent teachers. It is an old, but a truthful saying that no stream can rise higher than its source. Your teachers are your intellectual water-towers. The mental and moral stature of your children can hardly rise higher than that of those who instruct them.

(A voice from the reviewing stand: "Well, tell us who's to blame for this. Let us not spend more time in regretting the present situation, tell us what should be done in order to secure the kind of a teaching force which the children of Illinois should have").

Just a moment, ladies and gentlemen. If you have no conscientious scruples against over-running an eight-hour day, I wish you would remain seated just where you are while we countermarch this army before you, so that you may see the legends which are written on the opposite side of their banners. If I am not mistaken, those legends will indicate somewhat clearly some of the causes of the present situation and the remedies which must be applied in order to provide the children of this state with a well-prepared teaching force. They are returning in the same order that they passed before us—those of least preparation leading the line.

Notice, ladies and gentlemen, the legends on this side of the banners of those whose preparation does not extend beyond that of the elementary school.

They say: "No teacher in this group received an annual salary exceeding \$299.00." We shall sit for over 15 minutes watching 848 teachers pass, not one of whom received a salary exceeding \$299, and whose average salary is approximately \$250. We shall sit for four hours and fifteen minutes watching 21,945 teachers pass by, not a one of whom received an annual salary in excess of \$800 and whose average salary is \$515.

I do not claim that those of least preparation always secure the least salaries. A rather careful investigation, however, shows clearly the causal relationship which exists between low preparation and low salaries, each tends to lift or to pull down the other.

Now, in answer to the question: "What must be done in order to secure a higher degree of preparation on the part of our teachers?" it will be necessary to place before you a few facts.

Under normal conditions, there come into the teaching force of the state about 3,000 new teachers every year. It is clear that if these replacements could be made with persons of sufficient qualifications we would, within less than ten years, rebuild the teaching force of Illinois and provide every boy and girl in our vast public school system with a teacher who is qualified to give them value received for the time they spend in education. Where are we to secure these recruits for this teaching army?

Evidently, we must get our recruits from the high school graduates who may be inspired to come forward and prepare themselves in normal school or college for this important field of endeavor. Now, what are the things which can be held out before these high school graduates to induce or incite them to become teachers and to make a proper preparation for teaching? I do not overlook the fact that there is an element of idealism which helps to determine the choice of every man or woman of his or her work; that this choice may often be determined wholly by something other than the material rewards connected with that calling. It is coming more and more, however, to be true that every man or woman is considered unwise or foolish who does not select that kind of work which will at least provide such a living as will enable him or her to retain self respect and enough of leisure time and energy to live something of a full and a complete life. The facts are, that out of the army of high school graduates fewer and fewer of the really talented young men and women are electing to come into the teaching profession. Why is it? Let us march the 15,000 high school graduates of Illinois down the street of one of our great cities, and let them read the employment advertisements which are displayed on either hand. The boys in this group, big-eyed and eager-minded, are not so indifferent as some would think toward the monetary returns for the work which they are fitting themselves to perform. Let us see how some of these employment signs read:

"BOYS AND MEN WANTED:—Janitors from \$780 to \$1,100 a year. Street cleaners, from \$800 to \$1,200 a year. Section men, from \$980 to \$1,200 a year. Coal diggers, from \$1,200 to \$1,500 a year. Policemen, \$1,200 to \$1,800 a year. Carpenters, \$1,500 and upward. Printers, \$1,560 and upward. Men school teachers, with normal or college education, from \$650 to \$1,200."

Ladies and gentlemen, if the teachers in the elementary and high schools have been able to train the minds of these young men so that they can look down the future and count the cost of living, of providing for themselves a home and the means of rearing a family, no one can doubt the results that these employment advertisements will have upon their minds. Until we place along the highways where these young men pass an employment sign that will reveal clearly the fact that this commonwealth will pay, not only a living wage, but a generous and ample wage for every man and every woman who prepares himself or herself for this difficult and important task of training the children of a commonwealth, we shall find fewer and fewer of them entering the teaching profession.

Now, if you please, look at the employment advertisements which will strike upon the eyes of the high school girl graduates who are looking forward

to selecting something which they can do in order to lead a happy and an independent economic life.

They will read: "WANTED—Housemaids, \$1,050 a year with everything that the maid may ask on the side. House cleaners, \$675 and upward. Trained nurses, \$1,300 and upward. Stenographers, \$900 to \$2,000 a year. Clerks, \$650 to \$2,400. Washwomen, \$600 and upward. Female elementary school teachers with normal school education, \$300 to \$650."

Alfred Bayliss, a former state superintendent of public instruction in Illinois in 1906, made the following statement:

While he was principal of the Streator High School two girls graduated in the same class. They both consulted him about their future work. He advised both of them to go to the normal school and prepare themselves for teaching. One accepted his advice and went to the DeKalb Normal School, spending two years there in order to secure her diploma. The other girl decided that she wished to become a typewriter and stenographer. She took a six months' course in a business college. After six years from the time of their graduation from the high school, the girl who had spent her time and money for a two years normal school education was securing \$65.00 a month for nine months out of the year. The girl who had spent six months in a business college preparing herself as a typewriter and stenographer was receiving a salary of \$1,200 a year.

Ladies and gentlemen, these figures are approximations and you may be able to take issue with some particular detail, but in the sum total and general effect they tell a truthful story. The State of Illinois and the various districts are getting about all of the academic and professional training which they are paying for. I know that public sentiment must be aroused. I know that in many districts today there has not been developed that appreciation of the value of a well-trained teacher that must be aroused. But a good, well-trained teacher is a cause as well as a result of an intelligent public sentiment. If we place in the most benighted and backward district a high grade, well-trained teacher, that teacher will in time create the sentiment which will make these very people refuse to have any other than a well-trained, competent person to instruct their children.

We have spent our money in vast sums for building up cantonments and aviation fields and ship yards, for equipping a great army and a great navy to protect the liberties of our Nation and the nations of the earth. We have counted every man unpatriotic to the degree in which he has refused to join in this great effort of self preservation. It will seem strange, indeed, if we shall discover some of those who have classified themselves as great patriots in the creation of well-trained armies and navies writing themselves down as unpatriotic when it comes to providing that greatest of all standing armies in a democracy—a corps of well-trained, well-prepared teachers.

The only safe foundation for a democracy in peace or war is a wide flung system of public education. Our victories upon land and sea will be more or less empty, our loud shouting and paens of victory may be turned into dirges of regret unless with the same enthusiasm, the same heroic courage, we turn to the more quiet and prosy field of endeavor and, as state officers, as members of the legislature, as leaders in civic and social life, as the officers of public education, we rededicate ourselves to the only safe policy—the education of all the children of all the people of our commonwealth by a teaching force fitted in character and personality and qualified with academic and professional training. If it requires new laws, in the name of heaven, let us have them. If it requires more money, no lover of his country, no real patriot will hesitate to provide it.

Of course, it can be, and is charged, with more or less of truth that many teachers are now being paid more than they are really worth. A poor teacher is always paid more than she's worth if she's paid anything. The effort which is now being put forward to secure a better wage for the teaching force does not have as its objective the securing of more pay for those teachers who are

not earning what they now secure, nor can any one seeking to divert or to defeat the movement cause confusion by the injection of such an observation.

Our legal standards of qualification must be raised. Every attempt, however, to raise these legal qualifications has been met with stubborn resistance. The attempt at the last session of the general assembly to require that every candidate who entered an examination for a second grade certificate should have the equivalent of a four-year high school education was fought and defeated in the committee. It was easy to show that every person who was trying to fit himself to plug decayed teeth or to straighten crooked ones had to have a four-year high school education and four years of dental training on top of that before the state considered him qualified to do this work. It was easy to bring before these committees the fact that even those who were training to be veterinary surgeons were required to have a high school education before they entered upon their special training preparing them to cure a horse of the heavens or the bots. Nor was it difficult to convince these committees of the absurdity of making such high requirements for such professions and leaving the requirements so low for those who are to perform the delicate and difficult duty of training a child's mind. The committee's action was determined wholly by statements which were made in all seriousness before it, that if such a standard were established, teachers could not be secured for their schools; that thousands of schools in Illinois would have to be closed. Complaint may also be offered that we are spending hundreds of thousands and millions of dollars on our state normal schools and our colleges of education in the University, and yet have not a sufficient supply of well-trained teachers. The state has established five great normal schools and is building a great college of education. The staggering and disappointing facts are, however, that while colleges and universities are being overrun with increased enrollments, the normal schools and colleges of education have in most cases no increase, and in some cases a smaller attendance. But if we are to prepare an adequate number of young men and women to meet the requirement of three thousand new teachers every year, we must increase and enlarge our teacher training institutions. This is my dream:

Within the next ten years there shall be established another state normal school in Chicago; these, with the College of Education at the University, all to be designated as teachers' colleges of the University of Illinois. This will give the institutions formerly called normal schools a new drawing power on the bright young men and women graduating from our high schools and will likewise relieve the pressure on the State University, especially in the first and second years. The normal school, as at present constituted, is not making as strong an appeal as it should. There is no mistaking the matter. I was almost born and bred in the normal school. I love its work, its ideals, its traditions and its achievement, but it must have reenforcement at this time in order to attract and train the required number of young men and women for the teaching profession. I believe that this transformation into teachers' colleges of the University of Illinois will bring such reenforcement.

Every excursion that we take in search of an answer to the question leads us back to the pot of gold. In order to get young men and women of native ability and personality to attend normal schools and colleges of education to fit themselves to meet the advanced standards of academic and professional training, the state must offer a position that will be secure in its tenure that will have certain social advantages and that will provide an annual salary sufficient, not only to supply the needs of professional growth and the actual necessities of life, but to provide such margin as will give them that ease of mind and freedom from financial worries which are essential to the best quality and quantity of teaching.

And in concluding I should like to turn to these persons upon the reviewing stand if they are still there and in answer to their repeated suggestion that we tell them what is to be done and what they should do, and say: "Ladies and gentlemen, I have a specific thing in mind. I should like to have you go down

to Springfield at the next sitting of the general assembly, not to quarrel with the teachers because they are there trying to lift the public school system; not to quarrel with the normal schools or University because they are trying to secure increased appropriations in order to train teachers for this commonwealth; not to quarrel with them because of their efforts to secure increased taxation in order that the one million children in the schools of this commonwealth may be instructed by competent teachers. In the last four years we have poured out our millions of dollars in building shipyards, aviation fields and cantonments in order to train men to fight for our liberties and protect our institutions and have classified men as patriotic or unpatriotic as we found them warm or cold on these propositions. Now, when the war is over and we are trying to preserve and perpetuate the very ideals and civilization and the safety of our government for which we fought, through the instruction of our children, can we be blamed for counting a man unpatriotic who, seeing the general aim to be accomplished and the lack of adequate means, fails to do what he can to secure from the legislature such provisions as will attract and hold a better teaching force by offering a living wage and secure tenure to all who will prepare themselves to meet a higher standard of qualification and fitness?

With these large ends in view, I hope that all those who have sat upon this reviewing stand and have seen the actual conditions will carry the impression over to the next meeting of the general assembly and that some of our feeling of righteous indignation against existing conditions, some of our desires for a better order shall take form in measures and laws which shall usher in the new day.

4. SATURDAY MORNING

At the Saturday morning session Mr. J. Calvin Hanna, State Supervisor of High Schools, presided. The first number on the program was the three-minute reports on the most important accomplishment by each of the Sections at their sessions on Friday. The Administrative and Commercial Sections and the Joint Session of Science Groups failed to report. The other reports were given in good form and gave to the teachers assembled a vivid expression of the breadth of the work which the Conference is doing through these Section meetings. As the proceedings of the sections are published elsewhere it is not thought necessary to reproduce these reports here.

Next in order was the report of the **Organizing and Advisory Committee for Curriculum Reconstruction**, which was given by Principal R. L. Sandwick of Highland Park. This report follows, together with a cut of Mr. Sandwick's diagrammatic representation of the Objectives of High-School Education and his remarks supplementary to the report.

Report of the Organizing and Advisory Committee for Curriculum Reconstruction

The plan to undertake a widely cooperative work of reconstructing the high school curriculum originated last year with Dr. H. A. Hollister, High School Visitor and Director of the Conference of the University of Illinois, and Dr. W. W. Charters, then dean of the Department of Education. These gentlemen interested the teachers present at the Conference in their plans, and it was decided to enter upon the work at once. An Organizing and Advisory

Committee was presently appointed consisting of Dean Charters, Supt. R. O. Stoops of Joliet, and Principals H. G. Schmidt of Belleville and R. L. Sandwick of Highland Park.

This committee, through the chairmen of sections, secured the appointment of fourteen committees to work upon the problem of curriculum reconstruction in as many different departments of high school work. Dean Charters wrote to nearly every university in the country hoping to secure material and information as to studies made elsewhere in the proposed field. He found that little had been done anywhere. It is a virgin field. Everywhere the feeling exists that the curriculum needs reconstruction to fit it to modern needs. There has been much curriculum tinkering; but no worthy effort at reconstruction. About the only material that could prove helpful to our committees is to be found in the 14th, 16th, and 17th Year Books of the National Society for the Study of Education and in Professor Bobbitt's excellent book on Curriculum Construction. These books were made available to the chairmen of committees working on reconstruction in the several departments.

On May 3rd an all day meeting was held at the University of Illinois at which the Organizing Committees and the chairman or a representative of each department was present, representing High School Administration, Mathematics, Classics, English, Science, Modern Language, Social Science, Commercial Work, Geography, Manual Arts, Household Economy, Agriculture, Music and Physical Training. As a result of this meeting several chairmen of committees were presently at work upon practical problems. The results of their studies were yesterday given in reports to the several sections of the Conference.

There never was a more opportune time to enter upon educational reform than the present. The war brought so much new work into the schools, and this work proved so immediately successful, that the minds of teachers and of the public as well are disposed to favor change. The High Schools taught successfully new work which the times demanded; thrift and conservation, patriotism, first aid, military drill, community life. Pupils took part with their elders in the practical tasks of winning the war: gardening, canning, farming, knitting, making four-minute speeches, selling bonds and thrift stamps. Many of us believe that this type of work by no means diminished but rather increased the education of our students through the direct contact it gave with the needs of the times. The schools got a new hold on life interests, a new conception of power to serve immediate needs in the economic, political and social life of the nation.

Another circumstance that makes this a most favorable time to consider anew the materials of education is the new continuation school law of Illinois. In two years every young man and woman at work between the ages of 14 and 18 will be in school. They will be in school not at night when fatigued with the day's labor, but some time between the hours of 8 and 5, the working hours of the day, and for eight hours every week when regular full time schools are in session. The number of young people who will come in contact with the high schools will be more than doubled. The continuation students will not be preparing for college; they need follow no traditions. We can start *de novo* with them. In all this work of reconstruction, we should have their interests in mind quite as much as the interests of the full time students. Improvements in education, initiated in the continuation schools, may eventually find their way into the full time curriculum without endangering the livelihood of any teacher engaged in teaching traditional subjects. Decided changes are possible if they are found to be desirable.

A third circumstance that makes this a most opportune time for the work of reconstruction is the widespread feeling that the old theory of general training is inadequate. The idea that the faculties of the mind may be given greater power through education has long been questioned. Recent intelligence tests given to millions of men in the army and students in schools and colleges have indicated that it is doubtful whether education increases mental power in any

appreciable degree. If the schools cannot give a general mental training which will make the student competent in all directions by increasing his mental power, they can give him a specific training for specific requirements of citizenship, vocation, and other interests of life. All agree that life is not static. Whether education is life or fits for life, education cannot stand still. There must be constant progression.

What is needed is a scientific method or technique of curriculum reconstruction which may be continually used to determine (1) What subjects and activities should occupy attention in high schools, (2) what material should furnish the basis for each subject.

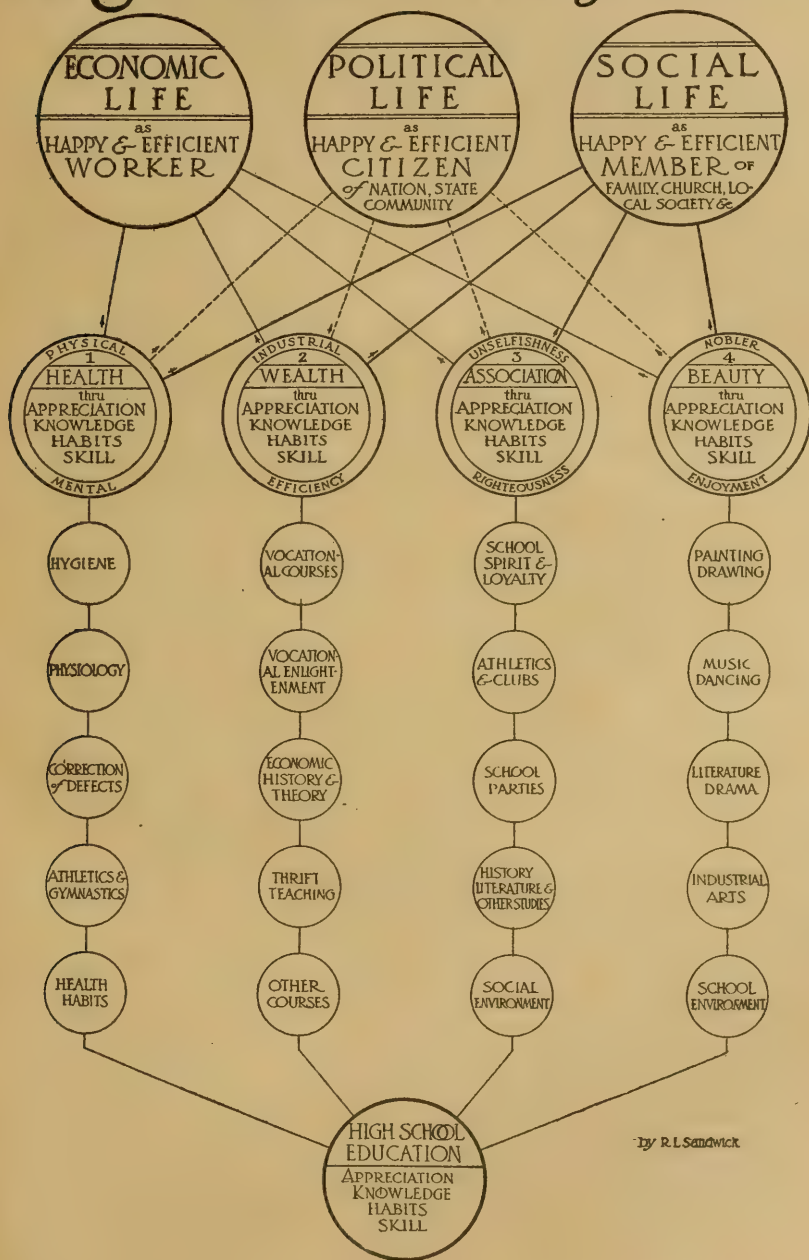
Just as military drill came into so many schools during the recent war so in the past one subject after another has met a current need. Changes in the curriculum will be halting and accompanied by costly experimentation unless they are scientifically made. The work of reconstruction will become scientific in proportion as it becomes widely cooperative. It must be a great social enterprise. No one man, no group of men have wisdom sufficient for it. Society itself, first becoming conscious of the essentials of human well-being as objectives, must determine how these can best be attained in the manifold specific details with which modern education must concern itself if it escapes from the fallacy of general training.

The fundamental essentials to human well-being are four: Health, Wealth, Association and Beauty. Professor Albion Small, in his *General Sociology*, laid down six fundamental human interests: Health, wealth, sociability, beauty, knowledge, and righteousness. But your committee believes that knowledge should be considered as a means to an end and not an end in itself. Knowledge is a means of attaining health, wealth, association and beauty. We believe that righteousness, or right relations among men, is also best regarded as a means. It is the means of attaining association. By teaching ethics as right relations, a means of attaining what all desire—mainly, friendship, social efficiency, membership in organizations—we can give ethical teaching a significance and power not attainable through abstract conceptions of duty.

By means of a chart or diagram, your committee has endeavored to make more clear the relations of education to the fundamental essentials of human well-being, and to the different phases of life which these support—economic, political and social. The circle at the bottom of the page represents education. Education should impart not knowledge alone, which has been our fetish in the past, but appreciation, habits, and skill as well. It leads up through various activities and subjects of instruction to the four objectives. Above the four objectives are the main life interests which these objectives support—economic life, political life, and other forms of social life.

The first objective is *health*. Everyone wants it, yet few have the appreciation, knowledge, habits, and skill to attain it. Its attainment should give us a more splendid manhood and womanhood, eventuating in economic life as happy and efficient workers, in political life as happy and efficient citizens of nation and state and community, and in social life as happy and efficient members of family, church, and local society. The Greeks made health an objective in education. As a result they attained to a perfection of physique and carriage such as the world has never seen. Health has not been an objective in our schools. In 1914 and 1915, the year when the Great War broke out, New York city expended in the promotion of health in the high schools, less than .1 of 1% of the 44 millions raised for educational purposes. In the matter of physical training the schools of Illinois are behind legal enactment. It is said that only about one in five are complying with the law that requires at least one hour a week of physical training. In 1914 and 1915 algebra and geometry were taught to 75% of the boys and girls in high schools, while hygiene and physiology were taught to less than 10%. Physical training was not considered of sufficient importance to be noted in the statistics of the Bureau of Education for that year.

High School Objectives



By R. L. Sandwick

The war has emphasized the need of a health program in the schools. Last year brought physical training for the first time into 138 of the 1,100 schools in the North Central Association. The war will probably bring into schools the correction of physical defects. Many young men rejected in the draft were later able to enter the service of their country when defects such as adenoids, bad teeth or tonsils were removed, or when better health habits had proportioned their weight to their height. The health program in the army increased the soldiers' weight an average of 11 pounds to the man, increased his chest measure and lung capacity, improved his carriage and set-up, and gave to many a new joy of living.

It was the defects found in the country's defenders that called public attention so sharply to the need of health as an objective in the schools. Thirty-five per cent of the first draft were rejected; more than half of those accepted were unable, when they first arrived in camp, to take the intensive training which the exigency demanded. Military preparation was slowed up because of their lack of strength, endurance, and muscular control. It soon became necessary to lower the physical requirements in order to recruit an army.

Had our social institutions been analyzed as searchingly as was the military, we should have seen the same need of a health program. We should have known, had we gone to the records of the United Charities, that early breakdown in the health of the heads of the families is the chief cause of misery and pauperism in the home. Had we gone to the insurance actuary, we should have learned that the expectancy of life is not three score and ten but forty-five years; and those acquainted with industrial life might have told us that sickness and untimely death cuts down economic productivity enormously. Health is as necessary to a right performance of civic duties as it is of military and industrial. The politician knows that the tired business man has no energy to rally to the support of his party by attending political meetings. Child life, also, suffers from ignorance and neglect of health. A recent bulletin from the Bureau of Education estimates that of the 25 million children in the United States 15 million are handicapped by some physical defect; six million so badly that their weight and height falls decidedly below the normal standard for their age. If we are seeking to reconstruct the curriculum, it would seem that a program of health should receive recognition.

The second essential for human well-being is *wealth*. The term wealth is not here used to imply great riches. It is used in the economic sense to signify command of economic goods. In this sense "the peasant's hut is as much wealth as the prince's palace." Considered in the economic sense, the term wealth should have no odium attached to it. We should rescue this good word from the hateful implication which has been given it. The desire for wealth is legitimate and universal. Plato, the philosopher, wished to grow rich honestly. Even teachers have been known to abandon an opportunity for service in one community, taking a position in another because the latter gave greater returns in wealth, more economic power over board bills, room rent and other expense.

Ratzenhofer called "work" one of the great interests of life. But Small improved upon this by substituting the word "wealth". "Work", "vocation", "economic efficiency" are all terms which apply to the means of attaining the economic essential of well-being. Wealth is that important essential. By whatever term we call it, there is no question that economic satisfaction is, and has long been, an objective in education. And the educated world has been fairly successful in attaining the objective. Bulletin No. 22 of the Bureau of Education on "The Money Value of Education", makes clear that nations which have the least illiteracy have the greatest wealth and earning capacity. The same applies to states of these United States and to groups of individuals. Education promotes wealth.

In determining whether reconstruction of the curriculum is advisable in attaining the second objective, we must go to the economic life of the people. In industrial life, we will find a large labor turnover and much unhappiness due

to the failure of men to get into the occupation for which their tastes and talents fit them. Evidently vocational guidance and enlightenment are needed. Furthermore we see only a few rising to economic independence through appreciation of thrift and through use of the knowledge, habits and skill that can attain thrift. Insurance actuaries report to the Bankers Association that of 100 healthy young men at the age of 25, 64 will be living at the age of 65; of these 54 will be recipients of charity, either public or private. Some will say that this is due to our economic system; but it may quite as well be charged to the failure of schools to inculcate in the young the principles of thrift.

Another serious defect in our wealth program arises from failure to teach economic history and theory. The serious economic problems of today are ignored. As a result of this defect in high school education, visionary schemes are widely cherished which are as wild as those which actuated some of the leaders of the Paris Commune in 1793. Three hundred newspapers, circulating from hand to hand, advocate direct action in taking over industrial plants by the workers without process of law. They are read by millions of readers.* If ignorance of health conditions has left many a prey to superstition, ignorance of economic law is actually threatening us with poverty in a land of plenty thru limiting the output, and with the wiping out of a large part of the wealth which years of industry have accumulated.

The third objective is *association*. Just as we rejected the terms "work", "vocation", or "vocational efficiency" because these are better regarded as means and not as ends, so the much used terms, "social efficiency" and "larger group consciousness", are really means of attaining the major objective, *association*. Through appreciation, knowledge, habits and skill in social matters men may enter into right relations with one another whereby happiness and efficiency may be promoted in all departments of life. The attainment of this goal involves teamwork, the sinking of self for the good of the group, playing the game like a good sport with honesty, truth, justice and the square deal; with good cheer, courtesy and modesty; with courage and obedience to the law and to rightful authority; with appreciation of men and with appreciation of the social character of modern industry that makes of the humblest task a joyful service to others. All this is involved in the third objective. Our environment consists of human beings as well as material things; and much the most difficult element to which we must adjust ourselves in the environment is the human element. Natural science gives us the adjustment to material things; social science must teach us the adjustment to one another.

Modern educational thinkers have come to realize that our education has most conspicuously failed in the attainment of social satisfaction. We have promoted individualism in every class, whereas our economic life calls for a social efficiency among men far more perfect than that for which we have prepared them. Democracy calls for political association; yet good people of education fail to unite for unselfish purposes when corrupt men unite for plunder. The Christian religion with its conception that God is love has been a powerful factor in building up a more perfect association among men. But religious differences have forced religious teaching out of the public schools. Has not the school the means of teaching association through activities that remain to it,—through the contributions of sociology and ethics, through school spirit and loyalty consciously promoted and then generalized to apply to larger community groups, through the team work in mass athletics, through the promotion of social initiative and efficiency in the activities of school clubs, and especially through the teaching of history and literature? We believe that too few students are studying civics—7% in 1914-15—too few are taking part with adults in activities which promote community betterment. So long as educated men and women fail to go to the polls and vote, so long as industry is organized to promote not service but selfishness, so long as mobs of young men engage in lynchings and

*See American Syndicalism, by John Graham Brookes.

race-riots, so long we shall know that the third objective, association, is not attained.

The fourth and last objective is *beauty*. We believe that art should touch with its refining power the lives of more men and women in America. Art can furnish satisfactions when material wealth fails. The poor may still enjoy their music; their love of the beautiful may be satisfied without large expenditure in these days of free public libraries, parks, and art museums. To be something of an artist oneself is to have an unfailing source of happiness and refinement. Without the refinements of the beautiful, material wealth becomes blatant and disgusting, and fails to minister to the happiness of the rich. A sense of the beautiful in the laborer adds value to the products of labor; in political life it builds the city beautiful; in social life it decorates, enriches, and ennobles all association. Thus beauty is found worthy of its place as the fourth and last educational objective.

In separating these objectives on the chart, the committee would not have it thought that they are not related. Each aids the other. Each is promoted by means of the other. Consider how beauty and health are related. It has been found in the case of shell-shocked men that music is the best and almost the only means of effecting a cure. Good cheer, which promotes association among men, contributes also to health. Wealth is closely related to association, success in the one resulting often in realization of the other.

The choice of these terms for our objectives has been influenced by the desire to make them available to the simple as well as the wise—to give them a universal appeal. Every normal person wants health, wealth, association with friends where kindness, trust, and appreciation abide; and every one loves the beautiful. These objectives appeal to the student quite as much as to the teacher. If education is shown to lead to these essentials of well-being, we will not have to convince the young that they want education.

Just as the major objectives of education are seen to be related, so studies now in the curriculum may be seen to relate each to more than one objective. History is behind every one of them. The languages and mathematics have a place. Art can be put to work to attain every objective. Consider what the artistic war posters did in educating the people. "Let me write the songs of a nation," says the sage, "and I care not who writes its laws." A poet, Elizabeth Barrett Browning, once taught England a great lesson in economics. Her poem, "The Cry of the Children," helped abolish their twelve and fourteen-hour shifts by night and day in mines and factories.

The sciences, including mathematics, have brought greater returns to industry and vastly increased wealth. Science has explored the sources of disease and found means of saving life and promoting health; by bettering the means of intercommunication it has promoted association so rapidly that men's ethical character has lagged far behind the needs of this widening association. Science has even invaded the domains of art and given us the possibilities of Caruso's voice in every home and Mary Pickford's acting in the little theatre of the smallest town.

With these four objectives, health, wealth, association and beauty, before us, we have a means of determining "what studies are of most worth." It will be found that those are most beneficial in education which make the largest contribution in promoting the four objectives. That material which serves these four great interests best must be retained; that which serves them the least may be soonest abandoned. The first efforts toward curriculum reconstruction might well consist of a consideration of the actual contribution of each study in terms of the ultimate objectives, the four fundamental essentials of human well-being. If to attain these essentials of well-being, the regular curriculum needs immediate supplementing, supplementary material may be introduced into courses wide and general in character such as history,

civics, literature, and English composition and into the extra curriculum activities, clubs, and general assembly exercises. Signed,

R. L. SANDWICK, Chairman.

A. G. CAPPS.

R. O. STOOPS.

H. G. SCHMIDT.

Supplementary Comment by Chairman Sandwick

It seems to me that after working on this for one year that it is a thing of tremendous importance. There is a gap between what ought to be and what might be and what is in our American life. What we need is facts, concrete facts. Take the matter of health. It is impossible to print in a paper the details that are necessary because there are so many details.

I took the forty leading scores that were made by students given intelligence tests in our high school and I took the forty lowest scores to the school nurse and demanded health conditions. I wish that others might do the same thing that we might have the relation of health to intelligence. (He named forty lowest with their health condition and forty highest with their health condition.) The forty lowest had an average of $3\frac{1}{2}$ defects each, and of the forty highest 52% were without any defects, and the others were general slight ones.

It strikes me that if we can find that that is universal we should consider the health program of schools more seriously than we have. I know of three schools where practically every graduate was accepted in the draft. I wish that teachers might everywhere inform themselves no matter what their subject is or what has been discussed most recently. (Mentioned book by Irving Fisher of Yale "How to Live.") I wish I might have known that years ago. It would have been worth everything to me and everybody. It would be interesting to know that among the Hindoos where the body is absolutely despised, where they injure the body, the expectancy of life is 23 years. May we not expect that program of Fisher's and others might be carried out and human life extended to sixty years? The worst of it is that in America diseases of the heart, kidneys, etc., are on an increase. But in Sweden where personal hygiene has more attention than any other country in the world the death rate from these causes is being reduced year after year.

Take the matter from the economic side. I wish that every teacher might read John Graham Brooks' "American Syndicalism" and know the awful place in which we stand. I wish that we might talk with laboring people and find out what ideas they have. I have talked to a man in the building trade and found that his life according to him was slavery. He was only working eight hours a day and had eight hours of his own. He had no conception of what his work was doing for other people. We have got to put over this idea that work itself is a great service, a great opportunity for charity, for great philanthropy. They don't understand that. That man like other men, warm hearted, if he had known of a need existing he would have been willing to help. I might have pointed out to him that in that same town during the influenza epidemic when some of us teachers who were helping take people to the hospitals visited a home of an Italian family we found the father and mother sick in one bed, two children sick in another and some boarders in other beds, making ten in that same room. Some of those we carried out never came back. Now in good quarters there was almost not a single death. We didn't bring any people from those places. Suppose that he had known that the building trade was a means of saving the lives of these people. I suspect no man could get into that business unless his father was a plasterer also. Instead of cutting down the amount of work he would have been working over time and calling on everybody to come and help and give these people housing possibilities if he could have seen

where it lead to. These social problems have got to find their way into the school.

The further discussion of this problem of Curriculum Reconstruction was very ably presented by Professor Henry C. Morrison, University of Chicago, who spoke as follows on **The Major Life Interests Towards Which Education May Contribute.**

I find that Mr. Sandwick, in his wholly admirable report, has just about stolen all my thunder and got away with it. The most that I can hope to do is to throw some light of interpretation on the larger aspects of this whole big question. Let me say in the beginning that I admire the outcome of this year's work. It seems to me that you have gone into it essentially in the right way and that substantial results have been secured.

Curriculum reorganization has been going on ever since I can remember. I have rarely known a new superintendent or a new high school principal who didn't make it one of his first jobs to upset the previous course of study. That kind of reorganization is highly destructive. The curriculum ought not to be a static thing but, on the other hand, it ought not to be a thing that is constantly being upset.

As I listened to Mr. Sandwick's report and to earlier reports my mind was struck with one familiar circumstance. You have already a law upon your statute book requiring instruction in health and physical education, and the statute is observed by a pitifully small portion of the schools of the state. This very familiar thing happens all over the United States. It is so easy to draft a statute and then leave it to enforce itself,—which no statute ever does. Let me suggest that a useful part of the work of your conference would be to constitute a pretty lively legislative committee with the duty of seeing that existing legislation is put in the way of enforcement.

It occurs to me that in general there are two lines of approach which we must keep in mind all the time, and the first of them is not the hunting out of new material for the curriculum, but the testing of the old.

I think that all departments in the high school ought to accept the obligation of showing that the material which they are teaching is justified. It is a very easy thing as time goes on for material to get into the curriculum, and especially to get into some component parts of the curriculum, which has no possible justification, except as a form of mental gymnastics. It gets in there because people find it makes an interesting type of intellectual juggling comparable to a game of chess or whist. Mathematics and science are especially the branches which are prone to be offenders in this direction.

In the process of curriculum reorganization we are pretty apt to get material into the curriculum which, however desirable, is not teachable under school conditions. A good many illustrations could be found in the field of vocational education. The vocational education people did not, as a general thing, stop to scrutinize the processes of a given industry and ask themselves the question, "Can all this be brought into the schools and taught?" There was a marked inclination to copy from the wholly different industrial conditions of Europe. No allowance was made for the vastly different conditions which had grown out of our standardized industries. The result was that many trade schools were apparently unaccountable failures, the cause being in the principle that they were trying to utilize material for educational purposes which was not teachable, except as an individual might learn it under shop conditions.

I suppose that we have got to have some kind of a guiding philosophy. I should dislike terribly to write a philosophy of education, but I may offer one or two suggestions.

In the first place, I think it is worth while to bear in mind that education and erudition are not synonymous terms. Education always has to deal with

knowledge to a greater or less degree, but not all knowledge is education. Education is one thing; culture quite a different thing; and erudition quite a different thing still.

If we go back to Mother Nature and see what she has been doing in the educational line for a good many years, we shall find that she has been carrying on a school ever since man became man, and that she has had just one word in her curriculum. That word has been *adaptability*. In other words, she has been teaching people to adjust themselves to any kind of a situation in life in which they may be placed; and people who cannot adapt themselves, she has been killing off.

Now one of our greatest practical problems in society is the human scrap heap. The world is moving so rapidly in modern times and changes come with such great frequency that people get consigned to the scrap heap because they have not adaptability enough to adjust themselves to the new order of things. Adaptability, on the other hand, is only another word for breadth of intelligence, an intelligent and intellectual outlook upon as many different fields as is possible.

We are going to run into the worst kind of a morass if we allow ourselves to become fight-headed over this question of education for life interests. You can't sit down here today and predict the life interests with which your children will be concerned twenty years hence. The world changes too rapidly. Your general committee will make a mistake if it attempts to catalogue the life interests with which we are at the present time concerned and conclude that these will be the life interests with which the children will be concerned when they get through school. There is a great difference between trying to train people to do specific things in the world and giving them a foundation which will make them adapt themselves to a wide range of interests. You will say "he is getting back to the old formal discipline." Not a bit of it. But, in getting out of the morass of formal discipline, let us not get into one which will be blinder still. I am interested in this connection to ask you to think for a moment what came out of that old situation.

It has been said that intelligence tests show that education contributes very little, if anything, to the intelligence of mankind. Now, my friends, that is a sheer inaccuracy, or rather a sheer bit of carelessness in the use of terms. The statement has been handed to us by experts and I am not denying in the least their findings, but the language in which they express themselves carries a totally different connotation from what they have in mind. Intelligence tests which are valuable are properly speaking mentality tests. We have a good many intelligence tests in the schools but very few mentality tests. There is no question in the world today that education contributes little or nothing to the improvement of mentality, but education contributes everything to intelligence. Confine the brightest individual in the state of Illinois and shut him off from all intellectual contact. Will he come out an intelligent man. Of course not! He will understand nothing of the environment in which he is placed. Take the most stupid youngster who is above the grade of moron. Put him through the schools and he will be a more intelligent individual than the bright boy who had no education whatever. No matter how mentally superior people are they still have to learn and no matter how stupid they are they can still improve somewhat by learning. Where the extreme formal disciplinists fell down was in their contention that through formal practice in certain lines you could improve general intelligence and even mentality.

I have reached the end of what I started to say, but I beg your indulgence if I run over two or three things which seem to me to be so obviously needed and so obviously needed at once, that we ought to give our most serious attention to them, because of the present crisis.

Of these things I shall mention first music and the fine arts. They were always important and they are now more than ever important, because one of

the serious factors in our whole social life is putting the great mass of our citizenship in possession of the capacity for the higher enjoyment of leisure.

I believe that we have made a great and almost fatal mistake in our neglect of biology in the high school, and when I say biology, I mean the general study of the phenomena and principles of life. Have you ever stopped to think that we are today still biologically superstitious? Within a generation many people were still geographically superstitious. They clung to the idea that the earth was flat and that the sun revolved about the earth. You never come upon them today. I can remember the time when pretty nearly everybody who had any kind of mechanical ability always passed through some period of life when he thought he could invent perpetual motion. That was mechanical superstition. The fact that, for a generation or more, we have been teaching physical science in the public schools has made it possible for a reading public to grow up in the general field of physical science, and this has very largely dispelled the darkness of superstition in that direction. That superstition is still with us in the domain of life. We don't dare to talk plainly on the subject of sex education because we are still superstitious. I am superstitious and most of you are superstitious. We have not had enough of the biological sciences taught in our high school to create a reading public within the field of biology.

In the third place I want to emphasize, as Mr. Sandwick has emphasized, the vital immediate importance of education in the field of economics. We ought to see that not another class escapes without a grounding in economics and we ought to ask God's forgiveness that we have allowed it to go so long. The one marvelous superstition of the day is the economic superstition. When people think that they can lower the high cost of living by knocking off work we contemplate a superstition which cannot be matched unless we go back to the stone age.

Finally, we are politically almost as superstitious as we are economically. I am glad to see community civics emphasized by making it a high school subject, but, my friends, we shall never realize our needs if we think that community civics is the end of civic instruction, nor shall we have served the essential purpose if we rest content with civil government. The thing we are in danger of losing is the understanding which our fathers so clearly had of the nature of our civil institutions themselves. For generations our fathers had constant education in the nature of our civil institutions,—not in schools, but in the great laboratory of the national life. They knew what the nature of liberty is. They knew it to be obedience to law. They knew the difference between autocracy and democracy. We don't know the difference between autocracy and democracy because we, as a people, don't know our civil institutions. To many of us democracy means simply letting everybody have a finger in the governmental pie, and autocracy means the Kaiser. Wherever we attempt to substitute personal government for government by law, there is autocracy,—or anarchy. I hope to see, within the next few years, and preferably within the next few months, all our high schools emphasize seriously and rigorously what used to be called constitutional law,—that is the nature of our institutions. I hope to see courses which are not mere debating societies, calculated to develop conceit in the immature minds of high school boys and girls, but courses in which young people will study, at the feet of competent instructors, equipped with proper textbooks, and learn what they need to know.

Professor Morrison's address closed the program for the morning. After some words of appreciation by the chairman of the morning the Director of the Conference declared the session adjourned to meet November 18, 19 and 20, 1920.

PART II

SOCIAL EVENTS

As usual the reception to visiting teachers at the Woman's Building was the important social event of the year's session. This occurs on Friday from 4:30 to 6:30 P. M. Miss Josie Houchens of the Library School again arranged the social features. Professor Jean MacKinnon of the Household Science Department superintended the serving of refreshments.

The function was largely attended and the social hour was entered into with appreciation.

The luncheon for the Principals' Section, given by the ladies of University Place Christian Church, was also a very successful affair.

Various special groups were entertained at dinner or luncheon Friday by members of the faculty. Phi Delta Kappa members with invited guests held their annual smoker at the University Club Friday evening after the Conference program.

PART III

HIGH SCHOOL LIBRARY EXHIBIT

The University of Illinois Library placed in the Auditorium an exhibit of books and illustrative material that would be of value to high school teachers, and the use of which would add greatly to the interest of their courses. The special departmental libraries of the University were very helpful in furnishing material and in assisting in the arrangement of this exhibit.

One of the most interesting features was a model high school library. This was especially suggestive to the teacher from the small town where library facilities are limited and where it is important that a good selection of books be made for the high school library.

Two groups were displayed. The first group, a collection of books suitable for the high school library, was arranged into general classes of fiction, essays, collections of poetry, drama, biography, travel and history. Both the standard and more recent writers were included. The second group included illustrated and attractive editions of high school classics. In a few cases the same classic was shown in the various available editions with the price quoted. An excellent list of books suitable for high school libraries was distributed in connection with this exhibit. This list can be obtained upon application to the University Library.

One of the most popular tables was that devoted to Classics. The chief attractions were the "Murray Maps" and illustrations of two methods of working up the "Sabin exhibit." These maps, published in London, by John Murray, are mounted on heavy linen and each sheet is folded and bound in substantial cloth binding. The series contains 1. Gallia, 2. Britannia, 3. Hispania, 4. Graecia, 5. Germania, 6. Roman Empire, 7. Italia, 8. Palestine, 9. Eastern Empires, 10. Asia Minor, 11. Mare Aegaeum. These maps are larger and more detailed than Shepherd's Atlas (N. Y. Holt, 1911), and handier and easier to read and use than Kiepert (Berlin). They are colored, have clear print, marginal references, scale of miles both Roman and English, and show the development of the Roman empire. There are also relief maps in colors. The Mare Aegaeum sheet is 20 x 36 in. and has twelve separate maps including Athens, Rome, Egypt, and the Bosphorus. Representations are very good of the Roman Forum, Acropolis, and especially of ancient Rome side by side with Modern Rome. The Relation of Latin to Practical Life, by Frances Ellis Sabin, published by the author, Madison, Wisconsin, 1916, is a guide by which the high school teacher may answer her pupils' question "What is the use of Latin?" The manual may be used as a syllabus to an elaborate exhibit of wall maps, charts, photographs, newspaper clippings, advertisements, etc., arranged on bristol boards 22 x 28 in. with proper headings printed at the top; the whole to be arranged in systematic order about the walls of a room. More simply, it may be used as an outline for a scrap-book containing much the same material as the exhibit, but not presented in a manner which makes as striking an appeal to the school as a whole. In either of these methods of development it is desirable that the students themselves collect the material so that they may verify the statements of the headings from personal experience and thus convince themselves that Latin has its uses.

In answer to a definite request made in 1918 for material of interest to the Modern Language teacher, it was decided to exhibit some selected material dealing with the teachers' problems. The material exhibited may be divided into three classes: 1) that for the preparation of the teacher, 2) that for the

preparation of the pupil, and 3) that for making class and club work more interesting.

In Class 1 were five or six recent authoritative books on methodology, books on phonetics and pronunciation, periodicals for the language teacher, and suggestive university bulletins on foreign language teaching, such as those of the Universities of Illinois, Wisconsin, California, and Iowa, all of which may be obtained gratis or at small cost.

Class 2 was represented by some good dictionaries and encyclopædias for the high school library and various verb blanks. The dictionaries and encyclopædias were divided into groups by language—each group being composed of a single volume encyclopædia and a dictionary in the foreign language with an inexpensive comprehensive foreign language—English dictionary.

Club work was emphasized. Colored wall charts for conversation were displayed with games, song books, a stereoscope, and a few beautifully illustrated travel books—all of which was material which would aid the student to acquire in an interesting way a more intimate knowledge of the people whose language he was studying while he himself acquired greater ease in its use. (For publishers and prices of this material see Dr. Oliver's bulletin: Suggestions and references for modern language teachers. University of Illinois School of Education. Bulletin No. 18. 25c.)

As usual, the exhibit on English was very popular. This was arranged in several divisions. The first one was of Shakespeareana. Books were selected that would aid the teacher in giving contemporary background to the plays, and that would also aid in the production of them by the students. Some interesting editions were also on display, such as a facsimile of the first folio edition, as well as a volume of Shakespearean illustrations and one of the most famous of his songs with the music.

The second division consisted of a collection of books on oral English and good usage. The subject of oral English was most vigorously discussed at the English section of the conference and hence considerable interest was shown in this collection. The third division was made up of books of good short stories chiefly those of a stirring narrative type which might be used to counteract the influence of the cheaper magazines. The last division consisted of an exhibit of eight rare magazines. They were all magazines which are discussed in English and American Literature courses, or those which contained articles of interest to such courses. Original copies of *The Tatler*, *Spectator*, *Gentleman's Magazine*, *Southern Literary Messenger*, and others were displayed in cases, each magazine being opened at some special well known or interesting paper.

The history and civics exhibit consisted of five different features, 1) the map and picture chart display, 2) magazines and newspapers used in connection with the teaching of history and civics, 3) books which are helpful in teaching history and civics, 4) charts and plans showing different phases of city government, 5) advertising material for distribution.

The map and chart display was the most conspicuous feature of the History and Civics Exhibit. Denoyer and Geppert of Chicago, sent at our request, a very interesting series of maps for exhibition; Breasted Ancient History Maps; Harding European History Maps; and the Hart American History Maps. By means of the steel equipment which accompanied the maps, it was possible to arrange and display them in a most effective manner. The Picture Charts which were also a part of the Denoyer and Geppert exhibit, consisted of presentations in color of important events in history, e. g., the entrance of Joan of Arc into the city of Orleans, King Edward visiting the printing press of Caxton, etc.

The magazine and newspaper exhibit consisted of a display of the more important magazines which are helpful in teaching history and civics. Among the magazines selected were: *The Historical Outlook*, *The Nation*, *United States Bulletin*, *New York Times Current History*, and one which attracted unusual interest, *The New Europe*, a magazine published in London and explaining events from the standpoint of one, popularly speaking, "On the scenes," The

New York Times, the one newspaper recommended, seemed to be recognized by a large majority of the teachers as being very helpful in high school work.

The books on civics and history consisted of general literature on American government in the civics field and biography and travel in connection with history. In addition to these were books on the actual methods of teaching history and civics.

The library was fortunate in being able to secure quite a display of city charts made by students in Political Science. These charts show in graphic form the weaknesses and also advantages of certain organized city governments, e. g. Why it is hard for the Chicago voter to vote, etc.

The advertising feature of the exhibit consisted of various pamphlets and circulars for distribution sent by publishers of maps and school supplies. The Nystrom Company, and Denoyer and Geppert both sent a great deal of advertising material which would be very helpful for teachers wishing to purchase maps, charts, globes, or similar school supplies. The McKinley Publishing Company sent copies of the Historical Outlook for distribution, study plans for various periods of history, and advertising materials of various kinds.

The agricultural part of the library exhibit was devoted to recent books on vocational agriculture and other books and bulletins helpful to the teacher of agriculture in secondary schools. Such books as Stimson's *Agricultural Education* and Nolan's *A Year in Agriculture* were examined with interest. Books useful in conducting projects in vegetable growing and poultry keeping were also shown. Lists of bulletins on these two subjects were distributed. New bulletin material on field crops, pigs, poultry, vegetable growing and various other subjects of interest were on file. In addition, there was a small collection of the latest books dealing with country life and rural problems. Among this group were Butterfield's "The Farmer and the New Day" and Douglass's "The Little Town, especially in its Rural Relationship."

The vocational and industrial education exhibit consisted of a number of new books on the subject, as well as the more important publications of the Illinois Board for Vocational Education, The U. S. Federal Board for Vocational Education, The National Society for Vocational Education. A large number of general industrial magazines were also exhibited. A bibliography of the material shown was provided for distribution. This bibliography can be obtained upon application to the University Library.

The fact that schoolmen find educational tests make possible a more intelligent supervision of the work of the students and teachers, made the exhibit of Educational Tests and Measurements one of interest. Test materials furnished by the Bureau of Educational Research were shown, together with their price lists and announcements of their new monthly *Journal of Educational Research*. Texts of a general nature and those on special subjects were also displayed. Two bibliographies were included, one of which was the United States Bureau of Education. Library leaflet, number two, entitled "List of references on educational tests and measurements"; the other, prepared by the Bureau of Educational Research, University of Illinois, was called "An outline for the study of tests and measurements for high school use."

JOSIE B. HOUCHENS.

PART IV

JOINT SESSIONS

1. JOINT SESSION OF THE LANGUAGE GROUPS

In the afternoon a meeting of all the language sections was held, Dean K. C. Babcock of the College of Liberal Arts and Sciences, University of Illinois, presiding. The subject of discussion was the report of the Interlocking Committee on the Coordination of Language Study for the High Schools of Illinois (printed in the Proceedings of the High School Conference at the University of Illinois in November, 1918; reprinted in part in *Hispania*, vol. II, pp. 119 ff., May, 1919). The chairman of the Committee, Prof. J. D. Fitz-Gerald, University of Illinois, presented the report; addresses were delivered by Professor W. J. Grinstead, Kentucky State Normal School, Richmond, Ky., for Latin; President J. Stanley Brown, Normal School, DeKalb, for Modern Languages; Professor D. K. Dodge, University, for English, and there followed an animated discussion, in which the chairman of the meeting and many teachers both of the classical and of the modern languages, participated. The recommendations which aroused most of the discussion concern the order in which the various languages should be taken up; the committee recommends that in every case Spanish shall be the first foreign language studied, and that it shall be begun in the first year of the high-school course, to be followed, in the case of a six-year college preparatory course, by Latin, French and German, in a four-year college preparatory course by Latin and French, in a six-year non-preparatory course by French and German, in a four-year non-preparatory course by French; insistence was laid in the report on the desirability of having the language curriculum uniform in all high schools, and on the necessity of devoting adequate time to language study. This latter point was tacitly assumed in the discussion, but there was practically unanimous opposition to the order suggested for taking up the various languages; and the chairman of the committee himself, while advocating the postponement of Latin until after a modern foreign language has been begun, stated that he would have no objection to the adoption of French as the first foreign language, to be followed by Latin and Spanish. In the discussion, it was pleasant to note that teachers of the classics emphasized the importance of French, and its educational as well as its practical value; while specialists in the modern languages recognized the fundamental importance of studying Latin. No motion was put before the meeting, and no decisive action was taken, but the impossibility of putting the committee's plan into general operation was made evident; it was repeatedly suggested, however, that experiments might be tried in suitable schools, to

determine the results of different forms of language curricula. It was also made evident that whatever differences of opinion they may have among themselves, all language teachers can and must stand together in resisting attempts to belittle the importance of language study and to cut down (as the Reviewing Committee of the N. E. A. is attempting to do) the already inadequate amount of time allotted to it in our schools. This is true not only from the point of view of the mental development and culture of the individual, as opposed to the mere training of his hands, but also with regard to the necessity for us as a nation to have a more intelligent knowledge of foreign nations than in the past.

The discussion by the different leaders follow in order of presentation.

Professor Grinstead, for the Latin

Mr. Chairman: The report which we are discussing contains some features with which I heartily agree, some with which I am in qualified agreement, and some with which I totally disagree. With those features recommending the strengthening of English, particularly in the direction of a purer and more vigorous spoken English, I presume we are all in the heartiest accord; and I will not take the time of this body to discuss them in detail. I am not so firmly convinced that we should commit ourselves at present to the experiment of supervised study, until its methods and results have been more carefully worked out by experiment. It is at best a device; and a device, however well founded in its inception upon psychological principles, can go quite as far in the direction of mechanical use and ineffectiveness in the wrong hands, as in the direction of live functioning in the right hands.

The one feature of the report which I cannot endorse at all is that which proposes a novel distribution of order and emphasis between the various foreign languages. I wish here to qualify the terms in which I have been put forward to discuss this subject. It is true that I am primarily a teacher of Latin, and in that sense I am representing the classics. But I am also a teacher of French and English; and more than that, I am a teacher of boys and girls. I may add that I have devoted much more attention to the science of education than I have to the study of Latin. Hence I claim that in what I shall say I am not wholly moved by the bias that might be expected of a special pleader for the classics. And as an educator, regardless of the particular field in which I teach, I wish to object to the very unusual proposals of the report regarding the order in which the foreign languages should be studied, as well as in regard to the differentiation between preparatory and non-preparatory curricula.

The study of a foreign language, it seems to me, may have three values: the vocational, the content, and the linguistic values. The vocational value exists for the pupil who expects to have direct dealings with a people who speak the language in question. The content value involves the development of a sympathy with the ideals, the institutions, the civilization of the people, as revealed in its language and literature. The importance of the study of this content will vary directly with the prominence of the people in the making of our modern civilization, and in particular with its influence upon the *mores* of the English-speaking world. The linguistic value lies in the effect of the language in making the pupil more distinctly aware and more effectually in control of the structure and resources of English words and sentences. Obviously this value also will vary directly with the extent of the influence which the language in question has exercised upon the English language.

The primacy of Spanish in the series of foreign languages to be offered to the pupil must be weighed in the scales of these three values. The vocational value of Spanish—which practically means its commercial value—is undoubtedly great for those pupils who expect to engage in commercial or professional enterprises which will bring him into contact with Latin America. Such pupils might conceivably constitute the major portion of the high school enrollment of certain cities along the gulf coast or the Mexican border. They certainly constitute a small minority in any high school of even the largest cities of Illinois; and this minority would no doubt sink to near the vanishing point in the smaller towns and the rural high schools. This situation no doubt justifies the offering of elective courses in Spanish in the larger high schools, and particularly in the commercial schools; but with equal certainty it makes it simply absurd to base the foreign language system of the entire state upon a need which is only sporadic.

The civilization of Latin America—which, be it remembered, is not by any means all accessible thru the Spanish language, but is largely embodied in Portuguese—is undoubtedly of large importance, considered as a subject of intellectual interest. It can hardly be said, however, that the modern world is in any of its major ideals a Spanish world. Whatever of Spain it has is not specifically Spanish, but generically Romance. France, and even Italy, have had a much larger share in the making of today than has Spain or Spanish America. And when we go further, and raise the question of the influence of the Romance nations upon the Anglo-American culture, a much clearer case can be made out for Italian than for Spanish; while French stands in a much superior position to either of them, or for that matter to all the other Romance languages combined. But a further question on this point might be raised: Is it France that has shaped our law, our architecture, our literature, our religious thought? Is it Italy? Or is it not rather Rome, sublimated and transmuted thru the alembic of the centuries into what we call France and Italy? I do not attempt to say that that which is Mediterranean in us is Latin rather than French; I merely say that it is an open question between the two; and that while it might be considered either, and must also be reckoned in good part Italian, it certainly is not Spanish. So on this score also the claim of Spanish to first place falls to the ground.

On the score of language the argument is equally strong against Spanish. While we have borrowed a considerable number of Spanish words, there has not been in any sense a blending of Spanish and English, as there has been of English with Latin and French. The fabric of English prose was made by men who were steeped in the Latin language; who thought in Latin, and who often reckoned it far superior to English for dignity and culture. The terse and compact form of the English world of today, in contrast to that of a thousand years ago, is largely due to the attrition of the stream of French which flowed along the channels of English culture for two centuries after the Norman conquest. Even when we borrow a new word today directly from the Latin, we usually cast it in a mold which was provided for us by the French-bred ecclesiastics of the Plantagenets and Angevins. Thus a clear case might be made out for either French or English as an aid to the understanding of our native tongue; certainly none can be made out for Spanish, any better than we could find for Portuguese, or Italian, or German. Hence on all three counts I must confess that I see a total lack of argument for the recommendation of the committee.

Lastly, I must protest against the proposal that Latin be relegated to those schools which aim to prepare for the college of liberal arts. The ground of my objection is a word popular indeed just now, and yet, I fear, sadly overworked: a word which every one uses to shore up his pet edifice, and yet which no one can define. It is *democracy*. I think we have before us in the educational system of Germany a sufficient evidence of the evil of attempting to direct the youth of the nation in its early years into the particular intellectual channel for which the accident of birth has seemed to destine it. To leave the

college as it is, to give it the entire control over the studies of the preparatory school, and to make it difficult if not impossible for the boy who has taken the non-collegiate tack to cross over in later youth to the collegiate, is to peasantize the nation. The high school should give the youth whatever their needs demand. The college and the university should take them with that equipment, and build upon it. If their courses do not fit, they should modify their courses. Applying this principle to Latin, I submit that if two years of Latin is good for the youth who is going to college, it is good for the youth who is not going. I do not mean to say that every high school pupil should be required to take Latin; but I do mean that the choice should not depend on whether he is to go to college or not. I do not even believe there should be two types of school for the same aged pupils, one of which is designed to get him into college, while the other can not do it. Moreover, I think the proposal to defer Latin until the second or third year of high school will be ruinous to the value of Latin to the nation, since it will practically debar the great mass of students from more than two years of Latin.

My proposal then would be: that in junior high schools the pupils be permitted, but not required, to enter upon the study of French in the seventh grade, which may then be continued or not in high school, according to circumstances; that Latin stand where it now stands, beginning with the ninth grade, and continuing for two, three or four years; and that in the upper years of the high school Spanish, Italian or German be offered as an elective.

Discussion for Modern Languages, by President J. Stanley Brown, DeKalb

In the discussion of this report I feel myself a kind of pedagogical heretic. In fact, I must confess myself a certain type of non-conformist.

I am distinctly of the opinion that Supervised and Directed Study, involving two periods of the usual length in either Junior High School or Senior High School, or Freshman or Sophomore years of the college, is distinctly advantageous in the teaching of all kinds of modern language. The ability to use the language, to have a type of composite judgment on the part of the language group to be taught, to learn to think in the language itself, and to increase the number of words, phrases and sentences used correctly every day, and thereby to become able to use the language in much the same way as one uses the mother tongue, is a desirable attainment rarely secured except by extending the conference period in time and effort.

Modern Language ought to demand and secure the same kind of time recognition for students and teachers as we find today so necessarily granted to all kinds of laboratory science, to hand work, and many other subjects taught in school and college. There is infinitely greater reason why such application should be made to language than it should be made to laboratory science. There is the best reason why such consideration should be given to all.

Supervised Study is no longer an experiment because there are scores of places successfully using it even though the teachers may not have been trained to the highest skill in this sort of directive work.

The Junior High School, comprising the seventh and eighth grades in place and time, forms one of the most fruitful places for the operation of directed study. The extended school day, the direct, close, personal conference between teacher and student, and the consequent interpretation of the power to study, are among the greatest things to be claimed for this new type of education.

So far as the position of Spanish or French in the course of study is concerned, we think that it would be best to have a group of schools try the study of Spanish in the first year as the first language which a high school student should attempt; let another group of students try as their first language the study of French. After such experiments have been tried for a series of years

and results tabulated, we might be able to form some composite judgment of their comparative value. This kind of experimentation will do more than determine the comparative value of these two languages; it will inspire all kinds of interest on the part of teachers and students concerned with the experiment, which in many cases it is difficult for us to secure under present, rather rigid conditions.

If in one or two of the cities in this State willing to conduct an experiment, we should have one group of students begin Latin in their first year of high school, another group begin Spanish, and these same groups should take as their second language in the second year or later the study of French; and if in another city the order could be reversed so that one group of students should pursue French for the first year and Spanish or Latin as the second language, we might, after such experimentation for a period of years in a half dozen or more cities in the State, be able to arrive at something better than a mere personal judgment or opinion.

To sum it all up, let us resort to the laboratory method for our determinations, make our experiments carefully, keep the record quite as carefully, and pursue the experiment for a sufficient length of time in a sufficient number of places to make the results unquestionable.

Professor D. K. Dodge spoke as follows from the English standpoint:

The interest taken by the teacher of English in the subject of foreign language teaching is twofold. In the first place, he recognizes the value of such study for its own sake and as an essential part in any well-rounded curriculum. The old saying, "another language another man," if expressed in slightly exaggerated form, is absolutely true. The one-language man cannot be regarded as truly cultured and, from the severely practical point of view, he cannot be regarded as wholly efficient as regards preparation for life. An exclusively English Matthew Arnold would be quite a different critic and educational expert from the author of "Culture and Anarchy," as we know him, and what is true of Matthew Arnold is equally true of all writers and thinkers whose interests are not wholly local. So far from reducing the amount of time now devoted to foreign language study, whether that language be Latin or one of the modern languages, all supporters of sound educational conditions should, in my opinion, favor rather an increase, wherever such increase is found practicable.

But in addition to this altruistic view of the value of foreign language study, the English teacher may well support it on selfish grounds, for what he, as an English teacher, can get out of it through the increased efficiency of his own students. Each foreign language, if it be properly taught, is an invaluable auxiliary to English and the more clearly this past principle is recognized by the English teacher, and, it may be added, by the foreign language teacher, the greater will be the gain to the pupils.

The chief direct gains from foreign language study to the student of English are as follows: 1. The drill of translating from the French or Latin into idiomatic English is at the same time one of the best possible forms of drill in English composition. But to furnish this drill in composition the translation must be real translation and not mere rendering of the words of the one language into the corresponding words of the other languages. Slovenly, inexact translating is as demoralizing as slovenly, inexact original composition. As advocates of both English and foreign language study we must exert all our influence in the support of and the insistence upon the use of proper methods of translation into the vernacular. As evidence of the recognition of the compositional value of the right kind of translating we have the practice by many writers of just such drill in connection with the development of their style. As stylistic discipline it is perhaps sound in importance only to the care-

ful study of standard works in the vernacular. Possibly the greatest single gain to the writer from such drill is the greater ease in the choice of the right word in the right place. Mr. Robert T. Lincoln once expressed his surprise that his father had been able to master the study of the law without any previous knowledge of Latin. It is still a greater matter of surprise that Abraham Lincoln was able to develop his wonderful mastery of words without any formal language study. We cannot, however, draw any general conclusions from Lincoln's case for he was a law unto himself, but we may safely assume that the most gifted writer is greatly helped in his work by the thorough study of some language besides his own.

All persons, furthermore, are helped by the study of foreign languages in the understanding of their own language. One of the arguments in favor of foreign language study that appeals most strongly to the English teacher is that special attention be paid to the roots that different languages have in common. Although the etymological argument is sometimes carried too far there is no doubt that a knowledge of Latin or French, better still of both, is a valuable aid to acquiring an exact knowledge and to developing a careful use of English.

Of the broadening of the student's knowledge of his own literature through the reading of foreign literatures I shall not speak in detail as this side of the question concerns, in the main, the more advanced studies of the college and the universities. But it is surely not out of place to note here that the more elementary work of the secondary schools will, in many cases, serve as an introduction to such valuable advanced work.

Discussion by Professor John D. Fitz-Gerald, for the Committee

In the May number of *Hispania* (Vol. II, 1919) your chairman published in his own name a defense of the Report of the Committee as presented to the High School Conference of 1918, and printed in the Proceedings. Reprints of this defense, together with reprints of the original Report were sent out to the principals and teachers of some of the leading schools of the state, in order to secure adequate discussion at this meeting. In opening his defense of the Committee's report, he read a note that he had appended to the aforesaid printed defense, to wit:

Throughout this article the author has been writing in his own name a defense of the report that was submitted to the 1918 annual High School Conference of the University of Illinois by the Interlocking Committee of the Coördination of Language Study for the High Schools of Illinois, of which he is chairman. He has no apology to make either for the report or for his defense thereof, for he considers that the position taken by the committee is pedagogically sound. Nevertheless, as he has always considered himself as a teacher of pupils rather than a teacher of subjects, his interest is always greater in the pupil than it is in the subject. For that reason a pedagogical confession of faith may not be out of place at this time. For years the author has been urging a more careful coördination of our programs of study, especially with the view to the best interests of those whose programs will be the longest and will therefore need the utmost nicety of adjustment. Our entire educational system in the last quarter of a century has suffered untold damage through a too liberal use of the elective system and the result has been chaos and lack of real attainment in any subject because the pupil has gotten a smattering of a variety of subjects through permission to elect anything at any time in the course. For the purpose of counteracting some of those evils and in order to free ourselves from the legitimate complaint that under the present system (which has been practically forced upon us) we do not give our students in sufficient numbers a real control of any language, the author has been urging a more careful coördination of language study so that in each and every language class of a given curriculum the students may have had not only the same training in the language in question but the same general language training as to the number of languages studied

and the length of time that has been devoted to each: in other words, homogeneity of antecedent language preparation in all language classes of a given curriculum. This means that for each curriculum a definite sequence will be adopted for the number of languages studied and for the time devoted to each. As the adoption of subject-sequence is far more important for the pupil than the position of any one language in that sequence, the present author has told his committee and the high school conference to which the report was submitted that he would support not merely the sequence recommended by the committee, but any sequence that the language teachers of the state could agree upon. He wishes to reiterate that statement at this time. And as a professor of Spanish I wish to state that I do not consider that it is any favor to my subject to give it the position that it has been given in the committee's report; and I am willing to support a sequence in which French and Spanish shall change places in the recommendations as made by the committee; or in the case of the college preparatory curricula I would support the sequence Latin, French, Spanish, German, or Latin, Spanish, French, German, provided we could get the language teachers of the state to agree thereon and thus give us the homogeneity that is essential to our meeting the demands that are properly made of us by permitting us to do away with the present waste from chaotic duplication.

Our Classical friends have attacked the claims made by Dr. Rouse of the Perse School of Cambridge, England, by the bald assertion that "if inquiry were made, it would be found that Dr. Rouse's work is generally discredited by Classicists." This statement was made last year after the presentation of the report and our Classical friends were asked to marshal their evidence of such "discrediting" and present it at this meeting. At this meeting no such evidence has been presented, although the aforesaid statement has been repeated. The Committee, however, presents the printed statements of approval of Dr. Rouse's methods made by such educational authorities as the Right Hon. the Earl of Lytton, S. H. Butcher (Member of Parliament), Mr. W. Keatinge (Reader in Education in the University of Oxford), Mr. E. Sadler (Professor of Education in the Victoria University of Manchester), D. L. Savory (Lecturer in the University of London), the Rev. Canon A. J. Mason (Vice-Chancellor of the University of Cambridge), Monsignor A. S. Barnes (of the Downside School), and our own John C. Kirtland (Professor of Latin at Philips Exeter Academy).

On the other hand a few of our Classical friends have surprised us by frankly urging that Dr. Rouse's plan be followed and that French be studied before Latin. There are more of them, however, who urge that while Latin should be the first foreign language, French should be the second foreign language or (if not the second foreign language) at least the first modern foreign language. And all three of these groups give as the reason for placing French where they do the statement that "the French are the Greeks of modern times." Your Chairman thoroughly agrees with that statement, and has a good deal of sympathy for that attitude toward French; and, as he has so often stated, he is prepared to support any of those orders of sequence if the teachers of the state can generally agree upon one of them. But he can not help pointing out that the claim that the French are the Greeks of modern times does not make it imperative that French be the first foreign language studied, nor even the first modern foreign language. So far as he is aware the Classicists themselves, while granting that primacy to the Greeks, have not within recent memory granted that primacy to Greek, which has always been begun after Latin.

Another favorite statement of our Classical friends is that Latin preceded French or Spanish, chronologically and therefore logically should precede them in the curricula of our schools. Our Classicists are generally pretty well equipped in the matter of French and German, as tools for their research work. But your Chairman does not recall that he ever heard any Classicist (or anyone else for that matter) insist that before studying French he ought to study Old French, or that before studying German he ought to study Middle High German or Old High German; and your Chairman is perfectly sure that no Ameri-

can or Englishman would recommend that a foreigner desirous of learning English should *first* study Anglo-Saxon, or even Middle English. It is evident, therefore, that the practice of *all concerned* (in the matter of all these other languages) is diametrically opposed to the chronological argument advanced by the Classicists in favor of studying Latin before studying French or Spanish.

The most important thing in our report, however, is not the position of Spanish in the sequence, nor the position of any other single language in the sequence. The most important thing is to get a sequence that we can agree upon and that will eliminate the waste and duplication that arise from the present lack of sequence, with its inevitable heterogeneity of previous language preparation in all classes. It is worthy of note, too, that while the discussion as to which language should come first has dealt with Latin, French and Spanish, there seems to be little doubt that these three languages are the most important three for the young American who is preparing for college, and that French and Spanish (in whatever sequence) are the most important two for the young American who is not preparing for college.

The second thing of importance in our report is the fact that we recommend that more time be devoted to language study than hitherto in all high school curricula. With this there seems to be in this meeting a general agreement. But your Chairman must call your attention to the fact that he learns through his work on the Modern Language Committee of the N. E. A. that its Reviewing Committee would curtail foreign language credits (for ancient and modern languages) in any and all high school curricula to a maximum of four credits, and that an influential part of that Reviewing Committee would reduce all foreign language credits in all high school curricula to two credits. Here is a very real danger not only to the language interests, but to the best interests of our citizenry, if the next generation of our population is to be prepared to look upon our opportunities and obligations, nationally and internationally, with a broad and intelligent vision that will keep sympathetically in mind the traditions and the rights of all our neighbors: our neighbors as individuals, and our neighbors as a nation. And if we, whose special task and privilege it is to teach our young citizens these subjects, do not pull together, the materialistic groups among our educational experts, our ultra-practical educators (to whom the theories, experience, and approved practice of twenty or thirty foreign countries have no meaning) will win the day and deprive our children of the opportunity to gain this wider vision and this broader sympathy with the other peoples of this earth. The proportion of time that your Committee urges for foreign language study in the various suggested curricula, corresponds in general with the practice and experience of nearly thirty foreign countries.

One of our classical friends has tried to show that your Chairman, in supporting the Report of this Committee, is not consistent. And to prove that inconsistency he quoted in full a speech made by your Chairman during the High School Conference of 1911 and published in the Proceedings of that year. Your Chairman wishes to call attention to the fact that the subject which he was treating, and which had been assigned to him by his classical brethren was: "The Importance of Latin to the Student of Romance Languages." In other words he was treating the needs of a very specific and limited class of students. If he were treating the needs of that same class today he would be willing to support all that he said on that occasion. But as Chairman of the "Interlocking Committee on the Coördination of Language Study for the High Schools of Illinois" it was his privilege and his duty, as it was also the privilege and duty of the entire Committee, to try to formulate a plan or several plans that would work out for the best advantage of large groups of high school pupils. To make these groups as large as possible we put all students who are preparing for college work of any and every kind into one group, and into another group we put all those who were not planning to go to a college of any type. Then with a view to the four-year existent high school (grades nine to twelve) and

the six-year prospective high school (grades seven to twelve) we arranged two schedules for each group of pupils.

Your Committee was unanimous in adopting the sequences recommended, with Spanish as the first foreign language. But your Committee had no intention of attempting to force those sequences upon the schools of the state. We know too well that such a thing is impossible. On the other hand we did feel, and do feel, pretty strongly that with the problem we had before us we ought to urge that some modern language (and preferably a modern form of Latin) be the first foreign language studied by our young citizens. Your Chairman is certain that the Committee would favor the sequences in which French and Spanish should change places. But as we felt most strongly that any single sequence for each group was preferable to the present chaos, your Chairman believes that the Committee would support earnestly any sequence that the language teachers of the state could be brought to agree upon.

2. JOINT SESSION OF SCIENCE GROUPS

Minutes of Joint Session of Science Groups, High School Conference.

Friday, Nov. 21, 1919, 2 P. M.

The Joint Session of Science Groups met in room 228 Natural History Building with Dr. H. J. Van Cleave presiding.

In accordance with the action of the session of the science groups held last year the chairman called for a report of the committee appointed at that time to formulate a course of study in the high school sciences.

Prof. J. L. Pricer read a report. (See report below.)

At the request of Prof. Pricer the session ordered the report received and the committee discharged.

The session ordered a new committee to be elected whose duties it would be to take up the work of the committee appointed last year.

The following committee was elected from the floor of the session:

J. L. Pricer of Normal, Ill., representing botany (chairman).

C. E. Spicer of Joliet, Ill., representing physics.

C. M. Wirick of Chicago, Ill., representing chemistry.

J. H. Smith of Joliet, Ill., representing earth science.

H. J. Van Cleave of Urbana, Ill., representing zoology.

_____, representing physiology.

A. W. Nolan of U. of I., representing agriculture (advisory).

Mrs. Stella Hubbel of Englewood, representing home economics (advisory).

The members of the committee were empowered, after consultation with officials of the conference, to appoint a member to represent physiology.

The committee was empowered to accept resignations from the committee and to fill the places made vacant by such resignations.

At the close of the discussion, which occupied a large part of the time of the session, a vote was asked for indicating how many of those present were in favor of such a course as the committee was instructed to prepare. The vote was practically unanimous in favor of such a course.

There were over two hundred present at the meeting.

H. J. VAN CLEAVE, *Chairman*.

J. H. WHITTEN, *Secretary*.

Following is Professor Pricer's Report:

Report of progress of the committee appointed in 1918 by the joint session of the science sections, to report on the content of two year courses in fundamental science.

By J. L. Pricer, Chairman of the Committee

For the benefit of those who may not be familiar with the history and purposes of these joint sessions of the science sections, a brief account of that history is a necessary introduction to this report.

In 1916, Professor Hollister appointed what is known as an Interlocking Committee on Correlation of Science Work. The following year, this committee made a report to each of the science sections, which report is printed in the 1917 report of the conference. In this report, attention was called to the large number of distinct sciences competing with each other for the limited space allotted to science in the schools, and to the almost endless variety of science programs found in the schools. The report also included a recommendation that a larger committee be appointed, consisting of two representatives from each of the science sections, and that this larger committee attempt to work out and report to a joint session of the science sections, if not a single program, at least a small number of different programs which could be recommended to the schools.

This committee arranged the program of papers and discussions for the joint session which was held last year. This meeting was pervaded by a remarkable spirit of compromise and determination to sacrifice all personal preferences and prejudices, in the interests of the common cause of science education, and I think that we were all surprised and delighted, that we were able to unite almost unanimously on a single program for secondary school science, behind which we were apparently willing to stand united. This program is set forth in the resolution passed by the meeting, and published in the proceedings of the conference. The program consists first, of two year courses in fundamental science to be required of as nearly every pupil in the high school as possible, and second, of as many elective courses in the applied sciences, and the special sciences as the size of the school would make advisable.

A resolution was also adopted providing for the appointment of a committee to work out the content of the two year courses in fundamental science, and to report at this meeting. This is the committee whose progress I have to report now.

This committee was appointed by the chairman of the session, Dr. H. J. Van Cleave, and I believe that Dr. Van Cleave consulted with Professor Hollister in the appointments. The committee is as follows:

J. L. Pricer, Normal, chairman—Biology.

A. W. Nolan, Urbana—Agriculture.

J. W. Shepard, Chicago Normal College—Physical science.

Florence Harrison, Urbana—Home economics.
 Mabel Clare Stark, DeKalb—Earth science.
 Raymond W. Osborne, Chicago—Physical science.
 John P. Gilbert, Carbondale—Biology.
 Ruth Marshall, Chicago—Biology.

I may say that in one respect, with the possible exception of the chairman, this was an excellent committee to handle the exceedingly difficult task assigned to it. All are serious and capable students of the problems involved. But in another respect, it was an unfortunate selection, for I soon found that all of us were so deeply involved in other similar work, that the task assigned us, seemed almost impossible.

Early last spring I devised the following questionnaire and mailed it to the members of the committee:

QUESTIONNAIRE FOR COMMITTEE ON CONTENT OF TWO-YEAR
 COURSES IN FUNDAMENTAL SCIENCE FOR HIGH SCHOOLS

General Considerations

1. Were you present at the joint meeting of the science sections of the Conference last fall?
2. If not, have you read the papers and discussions of the meeting, including the resolutions adopted, as reported in the Conference report? If you have not read these discussions, you should do so before filling out the rest of this paper.
3. Are you in hearty accord with the plan proposed in the resolutions?
4. If you are not in accord with this plan, will you please state in detail, on a separate sheet, what you would do to remedy the evils mentioned in the first part of the resolutions?
5. Are you willing to undertake your share of the work assigned the committee?
6. Are you particularly interested in the problems of science instruction in the high schools?
7. What is your major interest in science?

Some Suggestions as to a Plan of Attack

1. Do you agree to the proposition that the materials of the course for the first year should be drawn mainly from the physical sciences; physics, chemistry, and physical geography, and that those for the second year course should be drawn mainly from the biological sciences: zoology, botany, and sanitation and hygiene?
2. If you do not agree to this proposition, will you kindly state, in detail, on a separate sheet, your own plan for dividing the work into two year courses, and the sources from which you would draw materials?
3. Please state in any case, which year's work you would prefer to work on, providing it is found possible to divide the committee into two sub-committees, corresponding to the two years of work.
4. Do you believe that the materials for these courses should be only those which are of practical use in the utilitarian sense, or do you believe that the materials, in some cases, should be included which have only cultural, or ethical, or aesthetic values?
5. Do you believe that these courses should consist mainly of fundamental science, as opposed to applied science in the vocational sense?

6. Do you agree that the materials of these courses should be organized and drawn from the second and third of these groups, and do you believe that such a grouping may serve as a sort of standard or test by which we may determine the availability of any proposed subject matter for these courses?

7. Do you believe that these courses will necessarily include some things which do not have direct and definite application to practical affairs, but which are so all-embracing, and wide reaching, as fundamental principles of science, that they underlie and are necessary to a scientific understanding of many practical problems? Such things as the principle of evolution, the fundamental list processes of plants and animals, the molecular structure of matter, the structure organization and processes of a living cell, and the like fall here.

8. Do you think that the materials of these courses should be organized as logically as possible, or do you think that the matter of a proper sequence is of little importance?

9. If you do not favor a logical organization of the materials, will you state on a separate sheet, the plan of organization which you would favor?

10. To what extent would you make use of the project method in these courses?

11. How would the following plan of organization appeal to you: First, have the main body of the course organized as logically as possible with due respect to the teaching advantages of a proper sequence of topics, and a logical relation running thru the whole course, this to be presented by the ordinary text and lecture method. Second, have numbered laboratory exercises, running parallel with the text topics, and intended to develop the more important principles. Third, have a numbered series of projects, also running parallel with the text and intended to carry over into actual practice as many of the fundamental principles developed in the main body of the course as possible?

12. How would the following list of questions do as a sort of standard or test, or "score card" by which to judge the availability of subject matter for these courses?

1. Is it within the grasp of ninth and tenth grade pupils and capable of being made interesting to them?

2. Is it well established and accepted truth?

3. Is it fundamental science, and not more properly classified as agricultural or household science?

4. Does it apply to important practical affairs of every-day life?

5. Is it a matter that individuals and communities must know and apply for themselves, and not capable of application by a few experts?

6. If it does not apply directly and definitely to practical affairs, is it fundamental to many such applications?

7. Is it a matter that would contribute materially to better citizenship if it were generally known?

8. Is it a matter essential to common intelligence relative to natural phenomena?

9. Is it a matter that deals with some much needed state or national reform?

10. Is it a matter of superior aesthetic or ethical value?

Mr. Nolan and Miss Harrison responded promptly; Mr. Osborne and Miss Marshall after about a month; Mr. Gilbert wrote me a letter along in the summer, after he had lost the blank; and Miss Stark and Mr. Shepard never responded at all. All those who filled out the questionnaire were in hearty accord with the general plan of attack which it contains, but Mr. Nolan, Miss Harrison and Mr. Gilbert all begged to be relieved from any considerable amount of work on account of other similar duties in which they were involved. Mr.

Osborne being the only physical science man who responded to the questionnaire, I appealed to him to attempt to make a first draft of the first year course, which was to consist mainly of physical science materials, and I agreed to do the same for the second year course. This, at first, Mr. Osborne agreed to do, but because of the illness of the principal of his school, he was compelled to assume the principal's duties, and this made his work on the committee impossible. I was unable to handle the physical science materials even if I had had the time, and consequently, we have no completed report to make. I have, however, prepared a little sample of the second year course, which may serve as a concrete basis for the discussion of some of the problems I have discovered in what attempts I have made at the work.

I am not sure that it would have been best for us to have attempted to bring in a completed report, this year, even if our committee had been physically able to do so, for this thing came upon us so suddenly last year, that we left a good many of the problems involved entirely undiscussed. Among other things, I think that it was the general understanding, last year, that this committee was to bring in a report merely on the content of these courses, that is, on the particular facts and principles which they should include, and that we were to leave the matter of the plan of organization entirely alone. We were so very much surprised to find ourselves in agreement on the general idea of a single program for the required-of-all science, that we didn't feel like mentioning the matter of the plan of organization for fear we should discover differences of opinion that might divide us. However, it is obviously impossible to really construct a course of study without adopting some plan of organization, and so I believe that the committee should have the benefit of a general discussion of the plan of organization before it attempts to construct the courses. This sample of the second year course which I shall distribute, illustrates a plan of organization, and will therefore afford a basis for the discussion of this matter.

Last year, we were unable to agree to the proposition originally included in the resolution we adopted, namely, that the first year course should be composed mainly of physical science materials, and that the second year course be composed mainly of biological material. I believe that this proposition deserves further discussion.

Another question has occurred to me since I suggested the topics printed in this program for the general discussion, and that is the question as to whether these two courses in fundamental science should be planned for single period recitations, or for the regulation double periods twice a week. The idea of dispensing with double periods for any kind of science work may seem revolutionary, or possibly reactionary, but it is nevertheless a fact that the double periods constitute one of the serious administrative difficulties of science work, and on this account militate against it in its competition with other subjects. I believe also that most of us have discovered that long drawn out laboratory work for the children in the first two years of the high school, is not an absolute necessity. Possibly home projects, class demonstrations, and a few Saturday, or after-school field trips might be an acceptable substitute for the laboratory work. If such an idea should prove to be generally acceptable, the committee should know this before they attempt to construct the courses.

Possibly, also, we need to renew our faith in the general idea that seemed to be so dominant in the meeting last year, namely: that some sort of a common pabulum of science must be worked out to be taught in every school, and to as nearly every pupil in the schools as possible. I don't believe that we can say too often or too emphatically, that the potency of a given fact or principle, for good, would be multiplied a hundred fold, if it could be made a part of the common knowledge of the masses, or of such part of the masses as spend as much as two years in high school.

I may say that personally, I felt that I was assuming a pretty large and hazardous responsibility in calling this meeting, with little or no committee report to make, and with no definite program prepared, but I clung to the

hope that we would have some sort of a committee report to make until Professor Hollister was calling for the copy of the program, and then I felt that we simply must have a meeting to hold the ground that we gained last year, and I had discovered also the problems mentioned above which really need discussion before the committee can well undertake the task.

Furthermore, with all due respect and regard for the people who at present constitute this committee, I believe that the committee should be re-organized, and that it should, as far as possible, be organized here at this meeting. Four of the eight members of the committee appointed last year were not present at the meeting, and they had the extra burden of reading the papers of the meeting before they could get the proper drift of things. Most of us, as I have said before, were overwhelmed with other duties. There were too many biologists and not enough physical science people on the committee. I believe that the committee should again be a committee of eight. It should include one representative of each of the following fundamental sciences now in the schools—physics, chemistry, physical geography, botany, zoology, and physiology, and these six should have the main burden of outlining the work. In addition to these, there should be a representative of agriculture, and of home economics, to help see to it that the courses properly correlate with the two applied sciences. Since the work for these two should be mainly that of criticising and offering suggestions on the work done by the others, I am sure that the present representatives, altho very busy people, could not be improved upon. The other six should be people who are capable, and who can promise to make the work of this committee a principal burden in the line of outside work during the year. At the proper time, I shall make a motion for the discharge of the present committee and the appointment of a new committee of the type suggested.

Partial outline suggested for the second year course in Fundamental Science for the High School.

A. General topics for the whole year's work.

I. Fall—The Season of Harvest—Nutrition.

1. Food, its nature, origin and kinds; places and character of its storage; its function in the organism; and the processes of digestion, absorption, circulation, assimilation, respiration, and excretion.
2. Organisms which compete with man for the possession of the food of the earth.—Insects, bacteria, fungi, rats and mice, etc.
3. Organisms useful to man in his efforts to feed and clothe himself.—Crustaceans, fish, frogs, reptiles, birds, mammals.
4. Organisms which attack living plants and animals, including man.—Plant and animal diseases.
5. Factors in health other than diseases caused by organisms.—Proper food, clothing, sleep, exercise, fresh air, regular habits, stimulants and narcotics, skeletal defects, degenerative diseases.
6. The nervous system of higher animals in its relation to other organs and processes in the body. The special senses and their care.

II. Spring—The Season of Planting—Reproduction.

1. Reproduction in seed plants and in higher animals.—Cell structure and cell division, fertilization, heredity, and eugenics.
2. Reproduction in seedless plants and in lower animals.—The evolution of reproduction.
3. The structure of a seed, its role in plant dissemination, and the processes of germination and orientation of the seedling. The propagation of higher plants by methods, other than by seeds.—Budding, grafting, etc.

4. Adaptations of plants to environmental conditions.—Absorption, transportation and conservation of water. Orientation of leaves with reference to light, etc.
5. Organisms and physical and chemical factors which affect the fertility of the soil.—Bacteria, protozoans, earthworms, soil humus, fertility chemical elements.
6. Useful products of higher plants other than food.—Wood, lumber, fibres, drugs,—Microscopic and macroscopic study of wood to discover its useful qualities.—Forestry.
7. The origin and development of life forms on the earth. Summary treatment of the factors of evolution.

B. Detailed outline of some of the foregoing general topics.

Problem 1. Have pupils make a list of the various plant parts or products, which are gathered in from the fields, gardens and orchard in the summer and fall, to be used as food for animals and man.

Problem 2. Classify these things on the basis of the part of the plant—root, stem, leaves, fruit, seed,—used.

Demonstration 1. Make color tests for the presence of foods in samples of a large number of these various materials, noting the kinds of food present, and its relative concentration as compared with the plant parts usually left in the field such as corn stalks. Note that starch is by far the most abundant of all the stored food.

Raise the question as to the origin of the different foods found stored in concentrated forms in the various organs of plants. Call attention to the advantages to the plants, to have food stored in concentrated forms, locally in certain organs such as seeds, roots, fruits, and stems. Note the advantages to man, of the fact that plants do happen to store food in highly concentrated forms in certain organs.

Answer the question as to the origin of the stored foods, by *Demonstration 2.* Cover a portion of a leaf so as to exclude the sunlight, but not the air, and then expose the plant to light for several hours. Then remove the leaf, part of which has been covered, dissolve out the chlorophyll with alcohol and stain the leaf with iodine, to show that no starch has been formed by the part of the leaf covered.

Follow this by a thorough-going consideration of the process of photosynthesis, including a study of the structure of the leaf, and the various organs and parts involved in this process. Some mention should be made about what little is known about other food synthesis, and the fact should be brought out that most living cells of the plant can synthesize other foods, providing the fundamental food, a carbo-hydrate, and the necessary mineral salts are present, and that these other synthetic processes do not require the green color or the light.

In some of the above observations, it should be noted that the stored food is usually in an insoluble form, and even when in a soluble form, it is usually in a nondiffusible form. Test several storage organs, such as seeds, potato tuber, sugar beet, to bring out this fact. The question may now be raised as to how this insoluble food is to be made use of by a germinating seed, by a biennial or perennial plant in the next season, or by an animal which eats the storage organ. This question should be answered by demonstrations as follows:

Demonstration 3. Make a one-half percent solution of soluble starch, or a one-half percent suspension of common starch. To a small quantity of this solution in a beaker, add several well germinated barley grains, which have been mashed into a pulp. Test the solution for starch with iodine at intervals of two or three minutes until the starch reaction fails. After the starch has disappeared test the solution for sugar with Fehling's solution.

Demonstration 4. Repeat the above, using a dilute solution of saliva, instead of the germinated barley grains.

These demonstrations should be followed by a thorough discussion of digestion in all its details, including the nature of enzymes, and a list of the different enzymes of the human body, and some of the principal enzymes of plants. After such discussion, a definition of digestion should be formulated by the pupils, if possible, and it should be essentially as follows: Digestion is the process of changing foods from an insoluble and non-diffusible form to a soluble and diffusible form thru the action of enzymes.

Demonstration 5. Moisten a piece of bread and place in a moist chamber until it becomes covered with a good growth of mold. Stir up the bread and mold in about twice its bulk of water, filter off the water, and test it for sugar with Fehling's solution.

Demonstration 6. Cover a dozen kernels of corn with water in a tumbler and allow it to stand until the corn is well rotted by bacteria. Mash up the corn, and filter and test it for sugar by Fehling's solution. Observe the bacteria from such water under the microscope.

From these demonstrations, the conclusion should be easily reached, that digestion is a fundamental process possessed by all organisms, except certain parasites, and that the process is essentially the same in all organisms, from a bacterium to man. Food in nature is usually insoluble or nondiffusible, and any organism which is capable of appropriating food, must be able to digest it. About the only fate that can befall a bit of food when it is once synthesized, is digestion, unless it be burned in a fire.

After food is once digested, it is capable of diffusing thru cell walls, into or out of blood vessels, and so can be transported from place to place. The process by which food is distributed to the right place in the bodies of plants and animals may be illustrated as follows:

Demonstration 7. Throw a small crystal of copper sulphate into a tumbler of distilled water, note that the crystal soon disappears, and that the water at the bottom of the tumbler becomes colored blue. This illustrates the process of solution, which should be explained. Note further that day after day, the distribution of the color in the tumbler becomes more uniform, until finally it is completely so. This illustrates the process of diffusion, which should be discussed, so as to bring out the ideas of adhesion, and the inherent energy of the molecules.

Demonstration 8. Fill the bowl of a thistle tube with a thick syrup, tie over the open end a piece of parchment paper, or some animal membrane, and support the thistle tube so that the bowl shall be immersed in a tumbler of water. Note that the liquid rises in the stem of the thistle tube, and that some of the syrup escapes into the tumbler. This illustrates osmosis, or diffusion through a membrane. It should be noted that both the water and the syrup pass thru the membrane, but in opposite directions and at different rates. The syrup passes thru the membrane to the side where there is less syrup, and the water passes to the side where there is less water. This illustrates the law of osmosis, which is that substances in solution tend to diffuse thru a membrane from a region of high pressure of its own kind, to a region of lower pressure of its kind, and this may be in the opposite direction from that of any other substance. Many illustrations of the operation of this principle should be noted as they occur in the bodies of animals and plants, such as the behavior of oxygen and carbon dioxide in the lungs of higher animals, or in the gills of water animals.

It should be noted that after absorption of food from the alimentary tract of animals, or of oxygen from the lungs or gills, circulation of the blood intervenes, before the next step in either the process of nutrition, or of respiration can take place. Then, another process of osmosis occurs, as the food and the oxygen pass from the blood to the cells.

Demonstration 9. Place a handful of dandelion flowers into the bottom of a tall glass cylinder, and cover the cylinder with a glass plate. Prepare a similar cylinder substituting some soaked pea seeds for the flowers. After a few hours, test the air of the cylinders with a burning splinter, to show the absence of oxygen, and with a test tube full of lime water to show the abundance of carbon dioxide. By means of a glass tube, cause your own breath to bubble thru some lime water in a test tube. These demonstrations indicate the essential raw material—oxygen—and one of the principal end products—carbon dioxide—of respiration, and they indicate that they are the same in both plants and animals. It should be made clear that the details of the process involved here are not fully known, and it should not be stated that it is merely a process of oxidation.

The process of respiration, or katabolism, always involves the production of certain waste products, which must be eliminated from the body or disposed of in some way. The excretory organs of animals should be observed and discussed, and the crystals of waste products found in plant tissues should be observed and discussed.

Note that the role of food in the body of either plants or animals, is first to supply them with energy, and in the case of growing organisms, to supply them with body substance. Note that all food, that is all materials which are able to take the food role in this nutritive cycle, are organic; that their sole place of origin, or synthesis, is in the green cells of green plants; and that food is essentially the same for all classes of living things. Note that all processes of decay, or of disintegration of organic matter, involves this nutritive cycle, of one or of many different kinds of organism.

Organisms which compete with man for possession of the food of the earth.

Field Trip 1. Take your class to a corn field, a garden, and a woodland, and observe as many cases as possible of the depredations which bacteria, fungi, insects, and other animals make on the growing crops. If possible, visit a corn crib, or other stored grains or crops to observe the ravages of rats and mice, fungi, weevils, and other such organisms.

Get from government farm bulletins or elsewhere, statements of the estimated annual losses to the growing and stored crops, due to insects, fungi, rats and mice, etc. Have the pupils make estimates of total or partial losses to farm and garden crops during the past summer, in the vicinity of the school.

Make a laboratory study of a locust—*Melanoplus differentialis*—as a type of insect life, noting particularly its mouth parts, and the organs concerned in the nutritive cycle. Note also its life history, its special senses and behavior; and its natural enemies, and the best methods for its control.

Follow this with a similar study of other leaf eating insects such as various beetles, and Lepidoptera. Place the principal emphasis on the harm done, the life history, the natural enemies and the approved methods of control.

In a similar way study sap sucking insects, noting especially the modified mouth parts, the different instincts and behavior, and the consequent different methods of control. Included in this group are the plant bugs, the aphids, and the scale insects.

Insects useful to man should have some attention, such as the dragon flies, the ichneumon flies, predacious beetles, the bees, and many others that attack or parasitize the harmful kinds.

Insects that injure man by spreading disease constitute another group, such as flies, mosquitoes, ticks, and lice. Means of control of these organisms should receive special emphasis and the pupils should be made to fear and dread them as among the worst enemies of mankind. Plans should be made in the fall for a community anti-fly campaign to take up as a class project in the spring.

Organisms which attack stored grains and other materials which man tries to preserve, can be studied as a group. Rats and mice, weevils, grain moths, clothes moths. Estimates of the enormous losses caused by rats and mice in the country as a whole should be presented, and estimates might be made by some of the pupils of the losses caused by these animals on their home premises. The estimates might be compared with the cost of rat-proof buildings, or of the complete eradication of rats from the community.

The life history of the weevils, grain moths, and clothes moths, carpet beetles and the like should be presented together with approved methods of control.

In all this work with pests, of every kind, the idea must be made prominent thruout, that the only adequate methods of control involve combined community attacks on them. An individual may spray his apple trees to keep them free from the codling moth; he may make all his buildings rat proof; he may keep his premises scrupulously clean so that flies may not breed on them, indeed, he may attack in the most approved fashion, every pest that tends to interfere with his welfare, but most of his efforts will be vain unless all his near neighbors do the same thing. The pest problems are all community problems, and some of them are state-wide problems. They can never be solved until at least a large majority of the people in communities or in the state, become willing to do efficiently their parts. The teacher of these topics must not feel that his principal mission is to teach the morphology, physiology, ecology, life histories, and means of control of these organisms. These things, he must teach, but they are only means to an end. The proper aim of the teacher of these topics, is to enlighten his pupils as to the enormous losses occasioned by the organisms; of the possibility of preventing most of these losses; and to develop a social conscience in his pupils which will guarantee that they will not only perform faithfully their part as members of communities, in preventing the losses, but will help to support a vigorous public opinion that will force others to do the same.

Organisms useful to man in his efforts to feed and clothe himself.

Just as a man must use his wits, and accumulated knowledge in contravening the organisms that compete with him for possession of the things that rightfully belong to him, he may do the same thing in making the best use of in getting the largest returns from those organisms that are useful in meeting his needs.

Organisms which serve man as food, may be studied as a group, with particular attention to their respective food values; methods of handling, management, and control, to secure the largest food returns; methods of increasing their numbers, and discouraging their natural enemies, and the like. Clams, oysters, lobsters, fish, frogs, reptiles, birds, and mammals, should be considered here from this particular point of view. The conservation of these life forms are in the main, state problems, and not community problems.

PART V

SECTION MEETINGS

1. ADMINISTRATIVE SECTION

The Administrative Section held its business session in connection with the luncheon served for its members at the University Place Church. We give below the minutes of this business session and following these the papers presented in the order of their place upon the program:

The sixth annual business meeting of the Illinois High School Principals' Association was held in the University Place Christian Church of Champaign at 1:00 P. M.

The minutes of the preceding meeting were read and approved.

A nominating committee with Principal R. W. Pringle as chairman was appointed.

Principal C. P. Briggs of Rockford gave an interesting report of the work of the Legislative Committee and urged that a similar committee be appointed to work with the Legislature at its next session.

Principal P. S. Kingsbury explained in detail how the Springfield High School authorities enforced the Anti-fraternity law in the Springfield High School.

Principal W. R. Spurrier of the Princeton Township High School moved an expression of appreciation be sent to Senator Austin of Oak Park in recognition of his work in drafting and securing the passage of the Anti-fraternity law. Carried. Principal Spurrier was selected to write and send such an appreciation to Senator Austin.

Professor H. A. Hollister gave a stirring talk on Conference objectives and emphasized curriculum reconstruction. The talk was enthusiastically received and the Association voted unanimously to aid Professor Hollister in his plans. The following committee was appointed by the chair to aid Professor Hollister: Principal J. E. Armstrong, Englewood High School, Chicago; Principal R. L. Sandwick, Deerfield-Shields Township High School, Highland Park; Principal E. V. Tubbs, New Trier Township High School, Kenilworth; Miss Flora J. Cooke, Francis W. Parker School, Chicago.

Mr. Clevenger, of the University of Illinois, asked cooperation of the High School Principals in tests in English to be given to senior classes in the high schools. Motion made and unanimously carried to give such aid.

A brief discussion of curriculum reconstruction was given by Principals Sandwick, Pringle, and Armstrong. The following com-

mittee was named to work on problem of curriculum reconstruction: Principal George L. Harris, Galesburg High School; Principal W. A. Goodier, Bloomington High School; Principal L. W. Hanna, Centralia Township High School; Principal Wm. E. McVey, Thornton Township High School, Harvey; Principal W. W. Wirtz, Canton High School.

The Nominating Committee made the following report:

Secretary-Treasurer, Principal H. B. Black, Mattoon;

Accrediting Committee for North Central Association: Principal T. M. Deam, Decatur; Principal L. W. Hanna, Centralia.

The report was adopted and the meeting then adjourned.

W. D. WALDRIP, *Secretary-Treasurer*.

Report on Curriculum Reconstruction

Principal C. W. Whitten, DeKalb

After some introductory comment, Mr. Whitten took up the discussion of his theme as follows:

In spite of the fact, and I believe it is a fact, that actual educational practices have been thus far but slightly modified as a result of the war I believe there is a tremendously strong under-current of feeling on the part of school teachers and administrators as a whole that the war revealed certain weaknesses in the product of our educational system which make certain reforms absolutely imperative if our schools are really to accomplish the purposes for which they are organized and justify the enormous expenditures of wealth and energy which their maintenance entails. It was undoubtedly as an expression of this feeling that the high school conference of last year authorized the appointment of a committee on "curriculum re-construction" on which committee the chairman of the principals' section of the conference asked me to serve.

It is as a representative of the principals' section on this committee that I come to you today with a report on what has thus far been done together with some recommendations for the future. I shall discuss the topic assigned to me under three main heads as follows: First, I shall report on what has been accomplished by the committee up to the present time; second, I shall report on a tentative list of high school objectives which must serve as the basis of any efforts looking to a modification of our present curricula; and third, I shall make a brief statement of what seems to me to be the functions of the high school principal in relation to any proposed modification in the course of study.

The first main division of my report may be very brief indeed because up to the present moment very little has been accomplished. There was a meeting of the general committee at the University of Illinois last May 2nd. The meeting was well attended and there was revealed what appeared to be a wide-spread prevalence of the feeling to which I have already referred, namely, that present high school curricula may be modified in such a way as to contribute much more largely than they now do to the accomplishment of the purposes for which the high schools are organized.

At the same time when it came to the matter of the details of the contemplated reforms everyone appeared to be very much at sea. It was demonstrated beyond a shadow of doubt that the members of the committee were wholly destitute of what might be termed a technique of curriculum construction and it was at this stage of our proceedings that the leadership and assistance of Dean Charters promised such beneficent results, for Dean Charters is

one of the relatively few educational men who have given any particular attention to the technique of curriculum construction or who have, as a matter of fact, even so much as considered whether or not a technique of curriculum construction can be formulated.

Those of us who attended the conference last year will recall that at the first general session Dean Charters gave us a paper on curriculum construction illustrating his theory with a detailed method of formulating a course in spelling. I am not at all sufficiently conversant with Dean Charter's system to attempt an exposition of it in this presence. It has been the desire, however, of those having charge of this portion of the program to have presented to the principals as complete a statement as possible in the brief time at our command, of what has thus far been accomplished in working out a technique of curriculum construction, and we think we are extremely fortunate in having Professor Capps of the University to discuss this subject for us this morning.

Of course any method employed to make or modify curricula must be "scientific" whatever that may mean. The opinion seems to prevail among certain classes of educational writers that theses having to do with any modification in either the material or methods of education must be labeled "scientific" in order to attain the desired end. The word science, of course, connotes a variety of processes. The persistent tedious classification of observed facts by a Darwin is undoubtedly an example of scientific method. But it is no more genuinely scientific I suspect than was that mighty sweep of the imagination which enabled John Dalton to project the atomic theory of matter with its attendant incalculable influences upon human thought. * * * * *

One thing that was agreed upon with entire unanimity by the members of the committee who were present was the thesis that any really scientific effort toward either the construction or re-construction of curricula must be based upon a reasonably well-defined statement of the aims which it is desired to accomplish. I think it was recognized by all that in these days of almost revolutionary changes in so many of the ideals which control our social activities no permanent set of secondary school objectives can be catalogued. It is probable, however, that this is no truer in education than it is in economics, ethics, religion or any other of the civilizing agencies at work in the world. And to attempt to formulate any adequate statement of the materials adapted to education without a fairly definite knowledge of the aims of education would be a first class exemplification of the condition popularly expressed by the sentence "We don't know where we're going but we're on the way."

Consequently the principals with whom I have advised have considered it desirable that we express at this time at least a tentative statement of the objectives at which secondary education should aim. And this brings me to the second main division of my subject, namely, the objectives of secondary education.

In this division of my subject, as well as in all others for that matter, I want to disclaim any attempts at originality. There has been and will be no attempt to discover new truths. This paper rather is an endeavor to report certain situations which, if the principals' section so desires, may serve as a basis for further investigation.

I am going to advocate then very frankly a list of high school objectives reported by the commission on the re-organization of secondary education appointed some years ago by the National Education Association. Those of you who were fortunate enough to be present at the meeting of the National Association of Secondary School Principals which met in Chicago last February will remember that these objectives were there discussed by Mr. Clarence D. Kingsley, the chairman of the commission.

I am sure it is needless to say that the statement of objectives which I shall proceed to reproduce for you is not the only statement extant nor is it the only good statement. There are some who would base the objectives of the high school upon the activities which have been worked out by sociologists as

involving all of the interests with which society is concerned. Thus the objectives of human society or even human life itself as set forth by Professor Small, namely, health, wealth, knowledge, beauty, sociability and rightness are advocated by some as suitable objectives for education and it has been held that the material of education should be adapted to the promotion of these objectives. Personally, however, I believe the objectives set forth in the report which I have mentioned are slightly more specific than these sociological aims and consequently somewhat better adapted to serve our present purposes.

The objectives to which I am referring are to be found in Bulletin No. 35, 1918, entitled "Cardinal Principles of Secondary Education." It is published by the Bureau of Education and can be had upon the payment of five cents to the Superintendent of Documents, Government Printing Office, Washington, D. C.

Seven objectives are enumerated in this bulletin as follows: First,—Health. Second,—Command of fundamental processes. Third,—Worthy home membership. Fourth,—Vocation. Fifth,—Civic education. Sixth,—Worthy use of leisure. Seventh,—Ethical Character.

I have not the disposition and certainly not the time to enter into any detailed exposition of the significance of these objectives. Their mere enumeration, I am sure, will serve to impress any thoughtful student of education with the validity of their claims. [The significance of these objectives may be found by reference to the bulletin just referred to.]

* * * * *

Were I to venture an estimate of the relative importance, under present conditions of these seven objectives, I should not hesitate to say that the development of ethical character is now and always will be by far the most important. Indeed, considered in its broadest application it may be said to include several others of the seven. And I think it is a most enlightening commentary on the abiding imperfections in our educational system that as yet we do very few things with this objective specifically in mind. I believe that we as high school principals must devote much more thought to this problem than has been accorded it in the past.

To be sure, none of these seven objectives is a direct outgrowth of the war. We were as conscious of them before the war as we are now. But it is probable that we locate the emphasis differently since the war. As a direct outgrowth of the war I believe the crying need of the hour is a tremendously increased emphasis on training for citizenship on physical education and on vocational training. I believe much profit may result from a concentrated attack upon these problems by the entire membership of this conference.

In concluding this portion of my report let me again recommend most earnestly that those who have not already secured copies of the bulletin before mentioned send a nickel each to the superintendent of documents and get one.

For the third topic of my paper I desire to discuss briefly the relation of the principal to curriculum construction.

All grades of opinions are held with respect to this matter. There are those who believe that the curricula must be largely written by the principals themselves. Still others hold that it is the chief function of the principal, relative to this subject, of course, to harmonize and co-ordinate the courses prepared by the special teachers. While still others seem to believe that high school curricula should be prepared by educational experts outside of the high school field and that it is the chief business of the principal and the teachers to employ themselves with such ability and enthusiasm as they can muster in presenting these externally imposed courses to the pupils.

Where the true solution lies it is difficult to state. There are, of course, principals of all grades of preparation and experience, many of them being undoubtedly capable of writing courses in specific subjects. Personally I am con-

fidant I can write better courses in some subjects than are now commonly used in our high schools. But were I to be called upon to write a course in French or the theory of music or stenography or sewing or in various other subjects that I could readily mention I should find myself totally at sea. In most of these subjects the best I can do is to trust the writing of a course of study to someone in whose knowledge and judgment I have confidence. Unquestionably the principal must harmonize and co-ordinate the offerings of the various departments. It is well-known that the science section of this conference has been engaged for several years in attempting to prepare a course of study which shall embody their idea of the minimum to be demanded of every high school student. It is altogether probable that we shall find when their work is concluded that they will demand two or more units as the minimum below which we may not fall without endangering the very foundations of democracy. The English teachers demand four units, mathematic teachers three units, language teachers seven units, the social science teachers from four to six units and all the other departments are disposed to demand as generous minima. There seems to be no one other than the principal whose function it is to view the situation in a broad light and to harmonize the demands of the various departments. If the principal is to function with a maximum of efficiency he must know what each subject contributes to the objectives which we have just mentioned. He must know the limitations of each subject relative to its contributions and he must know in a general way at least where eliminations or substitutions are necessary or desirable in order to make any given course serve most efficiently to promote the objectives we are striving to attain.

I have no doubt the majority of principals will find the demands imposed upon them by such a program as I have outlined sufficiently exacting. In these days of the multiplicity of courses with their varied and complex content it is entirely too much to demand that any principal be qualified to write all of the courses. But if there is a technique of curriculum construction the principal must be sufficiently familiar with this technique to direct the work of any teacher or committee to who is assigned the task of preparing a course of study for a high school class. He must of necessity leave the details of the material of instruction to the specialists to whom the specific work should be assigned and by whom the teaching must be done.

I believe then that this administrative section of the high school conference can undertake no more profitable line of work than a study of the technique of curriculum construction with a view to assisting teachers in preparing specific courses. Furthermore it would undoubtedly greatly simplify the problems confronting high school principals if we could announce from this section with some degree of unanimity an approximately definite apportionment of units to the various departments.

To return again to the work being done by the science section of this conference I doubt, although I cannot speak authoritatively, whether the administrative aspects of high school curricula are being given much consideration. Would it not be well for this administrative section of the conference to be ready to say to the science section or to the English section or to the foreign language section, "We would like to have you prepare a two-year or a three-year course or a course of whatever length seems to us to be demanded by present exigencies." This certainly would give to the other sections something definite for work to work on and they would have some assurance at least of the probable adoption of the courses they prepare at the conclusion of their labors.

In conclusion I desire to recommend that this section of the conference continue a committee on curriculum re-construction, the particular functions of the committee being to further investigate the problems which I have discussed this morning, together with any other allied problems, and at the same time to work in full co-operation with the general committee of the conference on this subject.

Technique of Curriculum Construction

A. G. Capps, University

One year ago before a general session of this conference Dr. Charters read a paper on *What Has Thus Far Been Accomplished and is Now Available for the Readjustment of School Curricula*. He called attention to the great labors involved and to the length of time required to get even tangible scientific results. The distinct contribution made in this paper was the formulation of seven general rules which govern the technique of scientific methods of curriculum construction.

The seven general rules were as follows:

- "(1) First, study the life of man in its social setting and determine the ultimate (major) objectives.
- (2) Analyze these objectives and continue the analysis until secondary units of workable size are obtained.
- (3) Arrange these in order of importance.
- (4) Raise to positions of higher order in this list those objectives which are high in value for children but low in value for adults.
- (5) Determine the number of the most important objectives which can be handled in the time allotted to school education after deducting those which can be learned outside of school.
- (6) The best practices of the race in handling these objectives should be collected.
- (7) Arrange them in proper sequence according to the psychological nature of children."

By action of the High School Conference, a general committee was appointed to steer committees from the various sections of the Conference in the application of these general rules for curriculum construction. Your attention is called especially to two projects that are being carried on. First, Mr. J. Orin Powers, Assistant in the College of Education, compiled an extensive bibliography of over 500 references on curriculum construction. This can be made available for individuals and committees working on curriculum re-organization. The second project is that of determining the high school objectives which has been carried on by Mr. R. L. Sandwick, Chairman of the general committee on reorganization of the high school curricula. This is a highly commendable piece of work and every high school principal and high school teacher of this Conference should hear his report tomorrow morning. In my judgment, his objectives, health, wealth, association and beauty, for the high school are directly in harmony with the scientific methods of curriculum construction. It should be noted that this step is in conformity with the first rule formulated by Dr. Charters.

The chief purpose of this paper is to show the technique that may be used in continuing the project of curriculum readjustment from the four objectives proposed by Mr. Sandwick.

Analysis of Objectives

For purposes of illustrating technique, let us accept the four major high school objectives to be proposed by Mr. Sandwick and indicate what the next steps should be in the curriculum readjustment project. The four objectives in question are Health, Wealth, Association and Beauty. As they stand they are no doubt valid but large and general. Before we can use them in an exact sense as norms for judging the content of courses of study, they must be analyzed into working units.

Positive Analysis

In analyzing the objectives, one of two viewpoints may be taken—the positive or the negative. Let us take the first positive viewpoint and show how it

may be carried out. We do not think in terms of Health but in terms of say good eyes, good teeth, good feet, good heart, good lungs, etc. Further analysis from the positive side would carry us to objective qualities of good eyes for example. That is, eyes that can see a given size of printed letters at standard distances from the observer, distinguish colors and shades under standard conditions, stand a given amount of strain without injury. These are working units from the positive side, they are objective and can be accurately measured. A similar list of positive objective qualities and quantities should be scientifically determined for each organ and system of organs of the body. If education had to do this work of analysis, the task would be quite tedious and long drawn out. Fortunately for the Health objective our brother scientists, the physicians, have been making these analyses for many years and have carried them to working units for the different parts of the body.

Negative Analysis

Instead of detecting the positive characteristics of good health, the negative method of attack may be used. Experts, physicians and nurses, should determine the kind and frequency of defects. For example, the frequency of shortsightedness, of farsightedness, of astigmatism, of sore eyes, and of granulated lids. An analysis of the Health objective into working units of this character gives us something we can understand, and can take definite steps to deal with in the educational process in the high school.

It is no doubt clear that a careful scientific method of analysis would require that the positive phase be carried out until positive norms are discovered. Only by having these is it possible to make the negative analysis to discover the defects. For example, we can decide whether the heart is beating too rapidly or too slowly only after we have determined the normal rate.

Measurable Objectives

While we have before us the subject of objectives, we should note that one of the great stumbling blocks in the objectives or aims of education as usually stated is that we as educationists can not show to the world that thru the educational process we have attained our avowed objectives. How do we know for example that a man is socially efficient, or that he has made an harmonious development? What are our measures for reaching a judgment on any individual? Heretofore our method has been that of guess work based on casual observation.

By a minute analysis of the major objectives we are able to arrive at a set of standards which are measurable within a reasonable degree of accuracy by similarly trained and correspondingly careful observers. When this day of scientific education arrives, the professional teacher can sell his services on the basis of proved results as the scientist in other fields does today.

Objectives of Wealth, Association, and Beauty

In the analysis of the other three objectives,—Wealth, Association and Beauty, we may use either the positive or the negative procedure. The agreement will not be as universal in regard to the specific objectives as in the case of Health, but an analysis should be made and a tentative list agreed upon. The objectives will not be as measurable as those in case of health, but our scientific goal should be to reduce the norms to a quantitative basis in so far as possible. For want of a better method we will often have to resort to the judgment of competent men. As Bobbitt points out, we may not agree on all the objectives but a few clear cut ones are far better than none at all. (Bobbitt: *The Curriculum*, pp. 50-51).

Activities to Attain Objectives

Having made a particularized analysis of the objectives, the next logical step in curriculum construction is to discover the most efficient activities necessary to attain such unit objective. To determine these activities in carpentry

trade analysis, Mr. J. M. McKinney, Assistant Professor of Industrial Education of the College of Education, University of Illinois, asked a number of first class carpenters to make an analysis of their trade and list the activities.

The investigator should be something of an expert in the activities involved and trained in the methods of analysis so that he can direct the analyses made by the experts in the activities. The shortcoming of the analyses made by the experts in the activities are due in part to the failure to detect many of the activities that have dropped to the level of habits and often to the lack of training in analysis.

Problems Encountered in Activities

Having discovered the activities involved in reaching the objectives, the next step is to locate the difficulties that give rise to problems. These breakdowns in activity which cause problems to arise might be determined by a diagnosis of the activities of the learner in many fields. In the political activities we might by a diagnosis of the errors made in casting the ballot, determine difficulties out of which problems grow naturally. In civic life the problems might be detected by a study of the records of the courts. This would give a list of the legal problems.

Subject Matter Needed

Subject matter arose in the economy of the race to solve problems. Essentially it is a tool for overcoming difficulties—for solving problems. When the problems in an activity are discovered this is a call for subject matter. A number of studies have been made that have used the errors of children and adults as a basis for subject matter. Charters noted the errors made in oral and written activities of pupils and on this basis decided what subject matter was needed.

Charters: *Minimal Essentials in Elementary Language and Grammar, Sixteenth Yearbook of the National Society for the Study of Education, Part I*).

Jones listed the 100 words most frequently misspelled, Woolfolk noted the spelling errors made by school children in their writing activities and the writer listed the spelling errors of high school students. These studies locate difficulties in the activities of children which call for a definite kind of subject matter. Monroe listed the arithmetical problems that arise in human activities. This gave a tentative body of arithmetical subject matter.

(Monroe: *A Preliminary Report of an Investigation of the Economy of Time in Arithmetic, Sixteenth Yearbook of the National Society for the Study of Education, Part I*).

Each major objective of the high school should be analyzed into working units and the concomitant activities, problems and subject matter determined for each one. This would give the raw materials as a basis for further experimentation to arrange them into high school curricula.

The question of relative importance of objectives has not been raised, but it must be before we can construct scientifically the curriculum. Our technique for evaluating the objectives is quite crude and, so far as is known to the writer, consists entirely of opinion that is nothing more than guesswork. Perhaps in the future an objective basis for judging will be discovered.

Types of Investigation for Organized Subject Matter

While the preceding type of investigation is being prosecuted, we need not wait. There is much that can be done to readjust the present organized curricula of the high school. Your attention is called to five types of investigation that may be profitably undertaken by the High School Conference committees on readjustment of the curricula.

Subject Matter as a Basis

First, subject-matter that is already organized and is being taught in the high schools may be taken as a basis. It should be analyzed down to working units. This is done in the textbooks in many cases and all the investigator has to do is to take this small working unit and find its use or need in the activities of life. Find out the activities of the children or of adults that need this working unit to further them. To narrow the range of investigation, certain activities that are generally assumed to use the subject matter should be selected. Then the activities should be analyzed down to working units. Each working unit should be scrutinized to determine the frequency of use of the working unit of subject matter or to determine what errors are made because of lack of the working unit of subject matter. For example, take the working unit of the subject matter of planing in manual arts courses and find how often this is used in the activity of putting in window sashes in carpentry or determine the errors made due to a lack of the subject matter concerning planing. In history, for example, one of the working units is the name of a historic character. Find how often this name is encountered in the reading activity of a certain type of citizens.

Each important working unit of subject matter in the organized units could thus be tested out and its value determined. The result of this would be to put the present subject-matter on the defense. However, other tests should be made before expurgating it from the curriculum.

Another worthwhile investigation would be to take the working units of the present subject matter and find out what other working units of subject matter are required to handle it. An investigation of this type would be particularly wholesome for many of the new entrants into the high school curriculum, such as Home Economics, Agriculture, Vocational Training Courses under the Smith-Hughes Bill, Civics, and Economics. This would require an analysis of these newer subjects into their working units and the location of the subject matter required to handle the concept.

A third type of investigation that should be prosecuted is to determine the specific objectives of each subject as it now exists in the curriculum in the light of the major high school objectives that may be adopted by this Conference. What are the valid objectives of Manual Arts, of Home Economics, History, Literature, etc., that are in direct harmony with the adopted major objectives?

A fourth type of investigation using the present organized subject matter as a basis would be to analyze into working units the lower branches of sequential courses and find out their frequency of use or need in the higher branches. For example, what use is made of a given word in the vocabulary taught in Freshman Latin, in Cæsar, Cicero, and Virgil? This study should be carried out for all the language courses.

Another possible study worth while for the language courses would be to determine the difficulty of learning of a given set of important words in the vocabulary work.

Activity as a Basis

A series of studies should be made starting with a list of assumed major activities. These studies are necessary before introducing into our present curriculum any considerable body of new subject matter that is concerned with certain phases of the economic and social life of man. What body of subject matter pertaining to the civic affairs of our local activities, for example, should be given to the high school students? This can be answered scientifically only thru an analysis of these activities and determining the frequency of use or of need of subject matter. If the major activities of man were thus handled, the present high school curricula would no doubt be measurably changed.

A LIST OF SUGGESTIONS FOR CURRICULUM REORGANIZATION PROJECTS

Health (Powers)

1. Survey of the physical conditions about homes, public buildings, streets, etc., that are known to be dangerous to health. List their frequency.
2. The collection of data of physical defects from army rejection statistics, insurance examinations, school inspections, etc. This should give a curriculum of difficulties. Example, see Beard, J. Howard. Physical rejection for military service; some problems of reconstruction, in *Scientific Monthly*, July, 1919, especially p. 6.

Social Sciences

I. Economics

1. (a) Determine a list of major economic activities or problems and analyze these into factors or activities involved.
- (b) Find the defects.
- (c) Find subject matter needed to remedy these defects.
- *2. Determine the economic activities engaged in by representative citizens or groups of citizens.

II. Sociology

1. (a) Determine list of major social activities or problems and analyze them into factors or activities involved.
- (b) Determine the defects.
- (c) Find the subject matter needed to remedy these defects.
- *2. Determine the social activities engaged in by representative citizens or groups of citizens.

III. Civics

1. Have business men evaluate a number of topics that are found in present civic courses. Ask them to add other important civic items. (Powers).
2. Analysis of the types of legal action in typical communities to find out the legal knowledge which the ordinary citizen should have.
3. Analysis of Community Activities.
 - (a) Clubs.
 - (b) Associations.
 - (d) Societies for the promotion of
4. Procedure.
 - (a) Determine the number of organizations existing, their officers, time of meeting, officers, etc., membership.
 - (b) Secure constitutions and analyze them as to (1) purposes of the organization and (2) activities provided for.
 - (c) Test the results of these organizations by (1) number of their policies that have become crystalized in legislative action, and (2) extent to which their policies have modified activities of individuals.

IV. History and Civics (Stormzand)

1. Collect for a week or longer articles that students read in newspapers in which a knowledge of history, civics, or economics is needed to understand. This can be done by students.

V. History

1. What history insight is needed to understand modern *historical* events?
2. What history is needed to understand modern *economic* problems or activities?
3. What history is needed to understand modern *social* relations or activities?

English (Stormzand)

1. Determine the rhetorical and grammatical errors made by high school students from first draft papers. Can furnish categories and directions for investigators.

*Note—No. 2 is means of determining No. 1.

Agriculture (Greene)

1. Select some of the major projects in farming and make a calendar of operations involved in carrying them to completion.
 - (a) Raising dairy calves
 - (b) Raising baby beeves
 - (c) Raising flock of poultry
2. Break these up by analysis into objectives, activities, problems and subject matter needed to handle them.

Manual Arts

1. Get a clear statement of the objectives in manual arts, collective opinion. Done by questionnaire sent to manual arts teachers and others working in the field. (Griffith).
2. Determine the representative activities in the work-a-day field. Analyze these to get the processes. Check against the courses of study to get at the material in courses of study to be eliminated.
3. Assume a list of projects. Analyze these into processes and arrange the project in order of frequency of processes occurring in them.
4. If manual arts courses are built on the needs of society what are the needs of society that manual arts satisfies?

Vocational Arts

1. Determine what should be the content of the curriculum for apprentices in various trades. Take men who are experienced in their trade, ask them to analyze trade into specialties, jobs, operations or processes, motion study. (Griffith).*

Mathematics (Algebra) (Monroe).*

1. Collect a list of practical problems in which algebra has been used or could be used advantageously. Extend this to geometry.

Science

1. What chemistry is needed by farmer or any other worker to understand or carry out his projects.
2. Same for biology and physics.

Cooperative Plan of Curriculum Readjustment.

The size of the task of curriculum readjustment undertaken by this Conference demands that the project be carried out on the cooperative basis. To re-

*Name in parenthesis indicates person who proposed project.

adjust any one of the subjects found at present in the high school would require that every working unit be tested out. This would be possible if the units were given out to investigators along with a detailed set of directions for scientifically testing them. The major units in Agriculture as now taught could be worked on by any number of investigators provided they were using plans that would make the results comparable.

The greatest difficulty in coöperative investigation is to get started. This difficulty would be overcome if there were a leader for each group of investigators for each subject. These leaders would have to be selected with care and would need to outline the work in harmony with all the curriculum readjustment activities that are taking place. Committees are needed and the committees should be tied together by a larger committee. Experience has proved that the central or steering committee should have a secretary who can take the responsibility for the projects that are being carried on. Coöperative work has a tendency to fall by the way unless it is carefully and persistently directed. These remarks are directly in accord with the statement that "there is needed a well trained secretary and a field man to direct the work and collect and tabulate the information desired," which is found in the pamphlet issued by the Director of the Conference under the caption, *The Educational Objective of the High School Conference of Illinois. Function of High School Principals.*

The success of the curriculum reconstruction project will depend on the attitude of the high school principals. Not only should they encourage their high school teachers in making the studies, but every principal who has the gift, even in the least, of analysis and quantitative sensing of a problem should lay off his coat and carry out analyses along with his teachers. This is leadership by participation. He should also encourage and persuade his teachers whenever he finds one or more who can carry on research to take an active part in the curriculum project. The teacher who is doing some of this work should be relieved of some of the routine duties. For those high school faculties that are not able to actively participate in the investigation it would be a fine thing for future work in this field if the teacher's reading circle work were devoted to the Fourteenth, Sixteenth, and Seventeenth Yearbooks of the National Society for the Study of Education and Bobbitt, *The Curriculum*. This course in reading would suggest a great many curriculum projects and no doubt result in finding a way to take an active part in the greater curriculum project—that of readjusting the curricula of the high schools of this state and of continuing the readjustment to meet the changing objectives of life.

Social Studies in the High School **Professor C. H. Judd, University of Chicago**

There are three difficulties in the way of the introduction of social studies into the school curriculum of the public schools of the United States. First, there are violent partisan disagreements about what shall be taught. Let me offer two examples. The Board of Education of Washington, D. C., ordered all English teachers in the high schools of that city to teach current events. It then suspended one teacher and fined her a week's pay for discussing Bolshevism and the League of Nations. The official verdict in the case shows that this action was taken against the teacher on the ground that she was not a specialist and consequently not qualified to speak on these subjects.

A second example appears in the fact that the central committee of the various associations of manufacturers, known as the National Industrial Conference Board, issued last year a pamphlet attacking a series of lessons prepared under the auspices of the Bureau of Education and the Food Administration of the United States. These lessons had described labor unions, and had discussed the eight-hour day and industrial pensions.

These examples make it perfectly evident that if social studies are to go into the schools some people are going to object to some of the subjects discussed. We have avoided for a long time disputes in public about religion by omitting religious teaching altogether from the educational program. There are some interests which in this day and age are more precious to some people than religion.

The second difficulty which the social sciences encounter is one which all new subjects have met. The programs of the schools are made up and the older subjects will not make room for newcomers. The closer the relation between a well-established subject and the new subject, the more acute the antagonism. It is a matter of some concern to the teacher of Latin that a new subject called social science is coming to occupy a part of the time and energy of students, but it is much more vital a matter with the teacher of history. The teacher of history hears his subject called a social study and actually confused in purpose and prestige with the newcomer. The history teacher begins accordingly to try to meet the situation by modifying his work, but he does this just as little as he dares and all the time he damns the new subject with faint praise or something less complimentary. History will serve, he tells us, as the foundation subject. Give students an elective if you please in economics or civics but put it in the last year, or better in the last half year; in the meantime take more history.

The third difficulty can be stated in two ways. We may say that there are no trained teachers of social science who can carry this new subject into the high schools. Or we may put it in another way by saying that the material at hand for such teaching is meager in quantity and defective in organization.

In some sense this deficiency is due to the fact that we know little or nothing as a result of trial in the schools about the kinds of social material which pupils can understand. Social facts are present in unlimited abundance on every hand, but children do not know how to observe and analyze them and teachers do not know how to make them proper subjects of teaching.

Over against these difficulties there are two powerful motives for the introduction of social studies. First, there is a strong demand on the part of high school pupils for an introduction to society. Pupils of the adolescent age are looking forward to the part which they will play in adult society. Manufacturers may rave against discussions of the eight-hour day and labor unions, Latin and history teachers may make their wares as attractive as possible or they may even enlist the aid of requirements, but students will continue to think of the modern world into which they are about to be introduced with wonder and ambition.

The second advantage which social studies enjoy comes from the present state of the public mind. There is a new type of public consciousness and a new demand that students be made intelligent about the institutions which have made the Western Hemisphere the home of national liberty.

The situation then is both favorable and unfavorable and the success of the social studies will depend on the way in which matters are managed. If we can profit by the advantages and avoid the difficulties we shall get on well. If on the other hand we are overwhelmed by the dangers, we shall fail. Our task is therefore to set up the organization which will manage the situation aright.

The organization which I believe can be made effective will have to be first of all unbiased. I am frank to say that I look with grave apprehension on the spread of partisan affiliations among teachers. I do not object to labor unions. I do object to the capture of a professional body such as teachers should be by a partisan interest. I should like to see teachers, because of their unattached relations to society, because of their strictly professional devotion to public service, free to speak impartially on matters of the most delicate social balance. There are, of course, many of us who will discuss the eight-hour day and industrial pensions whenever we like, but we ought to be in a position as a

professional group to deal with these matters in a way which is above the suspicion of partisan affiliations.

To this end I advocate as the first step in the program of introducing social studies into the school the development of cooperating professional groups. There ought to be sanctions back of any program which is proposed. The best sanction is that which attaches to the conclusions of a professional group of thinkers. We ought to set ourselves about the joint preparation of a body of material.

Second, I advocate a sweeping change in the center of gravity in the high school curriculum in the United States. It is little short of folly that we should be bickering about where we are going to put into the school program an explicit study of American institutions. We have time in the secondary school for rhetoric and mathematics. We are quite sure that pupils should know other civilizations and peoples and the facts of nature. But we are timid about a knowledge of society. We are weak and vacillating and ignorant. I commend to the consideration of all high schools the practice of the high school at Springfield where they have boldly substituted general social science for a freshman course in natural science. In our own high school at the University of Chicago we have taken time for freshman English for social science. At the J. Sterling Morton High School social studies turn up everywhere, in special required courses and again at points where the program records English.

The striking point in all these cases is that social studies do not have to carry on a petty warfare with history for a place on the edge of the world. In the cases cited social science has asserted its right to a major place on the program. Let whatever has to stand aside stand aside. I am satisfied that the vague talk which we have heard for years about socializing the curriculum is about to be turned into direct, concrete, vivid gospel. Social studies are to have a place, the best place there is, and other subjects are to come behind.

For my part I see no reason why we should not have a repetition of the history of English except that I anticipate that the conquest will be easier and more rapid. English swept into a place of first importance purely and solely because people could see the relation of English to their lives. Latin did not receive English with hospitality back in the 80's. Mathematics elbowed the new subject as much as it dared and administrations were in doubt. But today English is on the front seat or, not to overdraw the figure, on the platform and in the speaker's chair.

I have paid homage to the present supremacy of English because the history of this subject is truly astonishing. I had another reason, however, for my comments on English. Let us see if we can not save our social studies from the failure which English has made. English came into prominence so rapidly and easily that it forgot to bring with it enough real substance on which to live. English teachers did not busy themselves with the creation of methods and material. They borrowed and they elaborated the obvious in the effort to spend the time which had been lavished on them. Social studies must avoid the mistake of coming into the program with too little real material.

While I advocate the injection of social studies into every year of the high school course, I advocate at the same time the most strenuous industry on the part of teachers in the effort to get the richest possible content for this subject.

There are signs of interest in this content on every hand. The recent books on civics have touched on a great variety of subjects. I never go through one of these newer books without wondering how school people can fail to see that there is more social material than can be crowded into a single year. In the effort to condense much material of various kinds into a year's course ambitious authors have packed into the new books on civics topics enough for courses running through four or even six years. Then there is the rich field of local life. Local industries, local transportation, local lodges and churches invite study and analysis. Not only so, but the historical steps which lead,

not through wars and elections, but through the subtle growth of common living to the conditions which surround us, make captivating stories which children and society at large ought to follow. All these lines of informing social study need to be worked out.

The material should first of all be brought together. Secondly, it should be tested out and passed upon by many teachers. These many teachers should give no superficial judgment. They should test their teaching systematically so that they can select the most useful material. With the accumulated experience which comes through the use of tests there should come revision and rearrangement and further search for new material. Thus can a new subject grow rapidly and safely, for this is the scientific way of building up a curriculum.

One aspect of the matter is, I think, very encouraging. We were on the brink, I believe, of a colossal mistake in this country. We had nearly committed ourselves to a system of social training borrowed from the most aristocratic state of the Old World. I refer to the system of industrial education which we were on the point of borrowing in 1914 from Germany. We have some of the surviving traces of that near-disaster in the efforts of the Smith-Hughes Board to put over in this country an un-American, undemocratic division of education into general education on the one side and vocational education on the other. It is one of the blessings of the war that national consciousness was aroused to a recognition of the fact that preparation for social life comes best not through mere specialized skill of hand, but rather through insight into American institutions.

We are passing through a period of unrest when men are blindly groping after a new adjustment of social right and duties. England with her maturer democracy has pointed a new way. Her labor party is demanding for the children of the working classes not mere training in the manual arts but a share in the knowledge of science and letters.

Social studies furnish the antidote for German industrial slavery. Social studies will make it impossible for anyone to bring before the Illinois legislature a bill for a divided school system. It is barely possible that social studies will lead Wisconsin in due time back into the American type of school organization where training for vocation and training of the mind will be parts of one complete scheme.

The emphasis on social studies which I am advocating will, I am sure, solve another difficult problem of American education. Up to date girls have had in the main a literary education. Of late years they have been led over by home economics into the study of certain practical matters and certain natural sciences. The natural sciences have often been studied with little relish and doubtful profit. It is a curious fact that home economics has been food chemistry, and art and geometry of patterns, and history of furniture and costumes, but never real economics. Girls have been led to see things and more things but not institutions. Yet girls will live under the domination of institutions. They have a new type of freedom because they live in America. They have leisure because we live in urban communities that have followed in the wake of machine industry. Why should not girls even more than boys learn how society is built together into a cooperating whole?

The plea for social studies does not need, I am sure, to be urged at length. Their place at the center of the high school program is assured. There is only one open question. That is the question of the rate at which we shall reach the end so sure to be reached sooner or later. The rate at which the social studies go into the schools depends on the way in which teachers see their opportunity and accept it.

I can imagine two hundred interested teachers in the state of Illinois starting a reform of the first magnitude. They ought to agree to find each an interesting fact of social life and to put it into teachable form. There are government reports about certain industries for example. The reports have much

truth in them, but they are not teachable in the high school. Some intelligent teacher must absorb the report and then give the material high school form.

After the lessons have been formulated and tried out each in its home school, they must be passed around. This requires some effort but the result will justify the effort. Out of the two hundred contributions prepared during the first year at least fifty will survive and meet a general need. Now let the fifty be analyzed and their virtues be discussed and let the work go on. Next year another fifty usable lessons will come out of the labor of our two hundred. In five years we shall do what has not been done before in American education, we shall have demonstrated the way in which a curriculum can be made through cooperative effort.

I believe we shall in this way secure one other result which has never been secured up to this time. We shall secure a large body of trained critics of all the materials of instruction used in schools. The trouble with much of our teaching at the present time is that teachers do not know what are the virtues of good materials and the defects of poor material. The creating and sifting processes advocated above for lessons in social science will make teachers keen for the preparation and selection of materials in every subject which in form and content can stand the test.

I may be over-enthusiastic in expecting that large issues will come from adoption of a vigorous program of social studies, but I can see no possible ground to doubt that the curriculum of American schools must be first of all American in its content. I am persuaded that the days of mere imitation of other civilizations is over. We shall teach about other days and other lands, but we shall not neglect today and its problems in our own cities and towns. We shall study nature but man is our major concern. We shall learn to use the instruments of quantitative description and arrangement, but we shall also learn that society has its forms of control and its laws governing human relations. In short, as the days go by I believe we shall all see the necessity of a concerted cooperative effort in putting the social studies at the heart of the school program.

Perhaps it will be in place to suggest that the social science section of this Conference might do a unique piece of work by organizing to carry out the kind of cooperative program which has been sketched in this paper.

Intelligence Testing for the Classification and Guidance of High School Pupils

Professor B. R. Buckingham, University

No thorough going account of the extent to which intelligence testing may serve in the classification and guidance of high school pupils is at present possible. The materials simply do not exist out of which a report on a fact basis may be given.

There is, however, a strong desire on the part of high school teachers and principals for a more satisfactory basis than their best judgment and insight affords for advising children as to the subjects they should study and the life career to which they should look forward.

Perhaps there is no more compelling demand upon the psychologists at present than that they should place their skill, their methods, and their results at the disposal of the educational and vocational counselors.

Perhaps I have raised in your minds a hope that I should be able to communicate to you important findings tucked away in some obscure report, or perhaps you have fancied that the Bureau of Educational Research has something original to offer on this question. If such is the case, you will be disappointed at what I have to offer, for no conclusions have been reached either here or elsewhere and I may add that in my judgment it will be a long time before much in the way of results will be at hand.

At present there is not much more than a general, though sharply felt desire in the premises. As a motive, this desire will be impelling as soon as it finds an outlet—in other words, as soon as it finds an application for itself.

Permit me, therefore, to indicate what we desire in order that we may indeed classify and guide our pupils through the medium of intelligence testing.

In the first place, we need certain materials for measuring general mental ability. No matter what other types of psychological testing may be undertaken, the need for an estimate of general intelligence can never be superseded. Such a test applied to the children in a given class provides through its results, points of departure—locates, in other words, pupils to whom other and more specific tests should be applied.

But the results of general intelligence testing have an immediate value in the minds of high school children—a value, that is, which is more than preliminary to a succeeding test designed to secure a greater refinement of estimate concerning an individual. There are certain subjects in the course of study of the high schools, whose general intellectual appeal is strong enough so that a prediction as to the probable success of a child based upon his rating in a general intelligence test is possible. For example, Latin demands a certain relatively high intellectual ability before success in it is possible under our present school conditions. Proctor found that unless a child showed an intelligence quotient of more than 90, his chance of succeeding in the study of first year Latin was practically negligible.

Again, there are direct results to be predicted as to the length of time a pupil will remain in high school. Of a group of pupils in the Palo Alto high school whose intelligence quotients were less than 95, 70 per cent failed in more than half of their work during the first year in the high school. It was also stated positively by Proctor that pupils who test below fourteen years of mental age and who are at the same time over sixteen years of chronological age will never complete a high school course. Merely to know this fact has an intimate bearing upon the advice which principals and teachers should give to high school pupils. If we know in advance (as it is possible for us to know) that the chances are, say, five to one that a given group of children will not remain in high school more than two years, are we serving the best interests of this group of children by requiring them to pursue half of a course of study designed for children who will be graduated from high school?

High school courses are arranged on a four year basis. Their articulation makes no provision for pupils who drop out. As long as there is no chance to know who will drop out, this procedure may have its justification; but if we are able to predict with reasonable certainty that certain groups of children will attend for one year, two years, or three years, beyond the elementary school, then it becomes necessary in their interests to organize courses of study which to an equal degree with the four-year courses shall be complete within the probable period of the school life of the children.

To return to the subject of Latin. The high school is still preparing for the University, and the accredited list of the University is made up in the interest of preparation for the University; yet children who have an intelligence quotient of less than 90 are by no means likely even to graduate from this preparatory college course, and are still less likely ever to enter the University. Yet nearly a third of all the high school children who have thus far been tested have intelligent quotients below 90. Indeed, 70 percent of those testing below 95 have been found, at least in one high school, to fail in more than half their studies. As a matter of fact the standards of our high schools have been raised to such a point that none but those of fully normal intelligence or better can expect to graduate. As Terman says, "A nation falls short of the true ideals of democracy which refuses to furnish suitable training for a third of its children merely because their endowment does not enable them to complete a course of study which will satisfy the requirements of college education."

There was a time when those who could not pass Latin and algebra could take modern languages or science with a better hope of success, but the requirements in these latter subjects are now, almost, if not quite, as exacting as in Latin or mathematics. Then came the commercial subjects, but the commercial teachers found that there was no place in business for a bookkeeper or a stenographer of low ability. Now we have manual training, agriculture and home economics. Are these to become the dumping ground for relatively incompetent children? And how far is the process to be continued? It is certain that as long as the high school clings to collegiate or semi-collegiate standards, it will be essentially a class school in which the lower third of the children can find no successful foot-hold. In the project to which this High School Conference is gathered, of making high school education universally available, one of the problems we shall have to face is the organization of courses of study which larger numbers of children may pursue without the stigma of failure.

Thus general intelligence testing may be utilized for estimating the probable length of school attendance and, to a limited degree, for the selection of appropriate subjects of study. As a result of the estimate of the probable length of attendance different amounts of material within the same subject may be provided and sectioning of pupils on the basis of their ability may be made. Thus there might appropriately be a section in algebra for those who are probably going to graduate and enter college, and another for those who are likely to drop out of school at the end of two years. In a large school or even finer sectioning may be set up with its consequent differentiation of the course in algebra.

The uses to which a general intelligence test may be put in connection with the classification and guidance of pupils arises in part from the assistance which such testing is in the determination of causes of failure. At present the evidence on this question tends strongly to support the view that lack of mental ability is the most important single cause of failure. There are those who have said that it is irregular attendance or bad home conditions or physical defects, but the present view seems to be that children who attend irregularly, who have poor homes, and whose physical welfare has not received proper attention tend to belong to families in which the level of mentality is low. In other words, the view is being held that such factors as irregular attendance, poor home conditions, malnutrition, and the like are merely symptoms of a more fundamental cause—of that shiftlessness which distinguishes the ne'er-do-well from the competent.

But the opportunity which is offered for educational guidance based upon general intelligence tests is but preliminary to the general question. We need in addition to adequate general intelligence tests many specific tests—tests, in other words, which shall detect the presence and amount of special abilities. The result of these tests may be used as more definite aid than the general tests afford in selecting the best subjects for pupil's needs. Kitson calls this "Adjusting curriculum to the student."

It is clear that in deciding what subjects a child should study, we are largely concerned with the negative side of the matter as long as we are dependent upon general intelligence tests. We can tell what subjects a child ought not to study especially if his mentality is at all below normal. But for normal and superior children our general intelligence tests are of little service. For these children differences in kind are more significant than differences in degree of mentality. What is the precise nature of ability requisite for success in physics? Does it differ in kind from the sort of ability needed for the successful study of French? And suppose we find that the particular sort of ability which is required for success in physics is possessed by an individual who does not possess the particular linguistic bent that may be required for French. What is the inference?

Here we are, of course, confronted by a rival philosophy of education. One would say, let the child who is born long in physics study physics. He has

a chance to become competent as a physicist. The other school of philosophy would have the child who is long on the ability needed in physics but short on the ability needed in French, nevertheless study French because he needs it or because it will do him good, or because he is one-sided. Those who hold this view call the practice of their opponents soft pedagogy. The gain, however, is going in favor of the soft pedagogues. We find that the hardening process, which the holders of the doctrine of effort believe in, too often hardens the children out of school and into the world for them always to be hard. We are coming to see that there is an enormous waste of time in trying to reach the child that for which he is not adapted, especially if there is something which he can learn easily and with interest. The world is not made up of well-rounded men and women anyway. We are all born long and we are all born short; but our longs are different, and in a socially organized group they support each other in the work of the world.

In addition to general intelligence tests and specific intelligence tests, we also greatly need and greatly lack tests having to do with volition and emotion. It is often true that two persons of equal intelligence are not equally successful in an enterprise in which their intelligence would lead one to expect equal success. The question is often one of industry or ability to make sustained effort, of willingness to deny oneself present pleasures for future gains. Then, too, there are emotional traits upon which success is often based. Interests and appreciations come in at this point. Sympathy and that complex trait which we call personality also play a part in this connection.

If we turn from the material desired to the material now available, we shall of course experience a sense of contrast. Yet the progress that has been made in the past few years permits us to hope for a sharp decrease of the difference between the things desired and the things to be had. Two or three years ago we could satisfactorily test the general mentality of pupils only by means of the individual tests. An industrious worker under favorable conditions can hardly test more than a dozen pupils per day by means of the Stanford Revision of the Binet Test. When the American Psychological Association placed its services at the disposal of the war department, it did more than make a magnificent gesture. Among other things, it placed itself on record as ready to adopt seriously the principle of group testing. The practical work which the psychologists did in the army, the way they won their way against skepticism and ill-concealed contempt, the way they justified their tests by selecting men who were really fitted for the different positions in the army showed, as nothing less concentrated than their efforts could have shown, that the results of group testing when group tests are skillfully devised are vastly more reliable than the psychologists themselves were willing to admit a few years ago.

Among the group tests which are now easily available or soon will be are the following:

Otis' Group Intelligence Scale published by the World Book Company; the test called Virginia Delta 1 devised by Professor Haggerty for the Virginia Education Commission to be published the first of January by the World Book Company; Whipple's Group Tests for Grammar Grades which may be obtained from Professor Guy M. Whipple, University of Michigan; Thurstone's Psychological Examination for College Freshmen and High School Seniors which may be obtained from Professor L. L. Thurstone, Carnegie Institute of Technology, Pittsburgh, Pa.; Theisen-Flemming's Classification Test which is announced for early publication by Teachers College, Columbia University; Pressey's Indiana Group Point Scale which may be obtained from Dr. Sidney L. Pressey, Indiana University; Holley's Sentence Vocabulary Scale, published by the Bureau of Educational Research, University of Illinois. There are other group scales for general intelligence, but most of them are applicable only to young children. In the testing which we did last spring, it was Dr. Holley's opinion that the classification test by Dr. Theisen and Mrs. Fleming was the best one for the high school grades. We used all the tests I have just men-

tioned except the one by Thurstone. I can give you no personal opinion about Thurstone's test although I have heard it highly spoken of. All of these tests except the Pressey Group Point Scale and Thurstone's Psychological Examination either are furnished or will be furnished by the Bureau of Educational Research. However, the two tests which the World Book Company will publish may as well be ordered from that company.

We are not wholly lacking in tests of specific abilities. There are Seashore's Measurements of the Components of Musical Ability, Stenquist's Assembly Tests, Thurstone's Tests of Capacity to Handle Ideas Involving Relations of Space and Form, Sackett's Test for Mental Alertness. In addition to these, there are a number of vocational tests. Many of these were derived by the army psychologists. Cody, as perhaps most of you know, has his "Commercial Tests." His monograph on these tests is published by the World Book Company. A number of tests for salesmen have been devised by the Bureau of Salesmanship Research at the Carnegie Institute of Technology.

Among tests of abilities other than intelligence we have Fernald's Test of Grit—a test for measuring the extent to which a person resists fatigue—Moore's Method of Finding the Strength of Instincts, Kelley's Measurements of Interests, Thorndike's Scales for Measuring Aesthetic Appreciation, and Webb's remarkable attempt to demonstrate the existence of a second factor (i. e. second to pure mentality) as exerting a widely ramifying influence in character. The nature of the factor is conceived to be in some close relation to persistence of motives, i. e. to depend upon the consistency of action resulting from deliberate volition.

Rather tediously, I fear, I have listed these tests; but I have done so that you may know something about the available material of the three major types which seem to me to bear on our problem, namely, the group intelligence tests, the tests for specific abilities, and the psychological tests other than those of intelligence.

I cannot refrain from including in the list of available material a statement concerning a method which has been applied in education by Dr. Truman L. Kelly of Teachers College, Columbia University. He obtained for entering high school children their scholarship ratings from the fourth grade through the eighth grade together with the teachers' estimates of the ability of each child. He also gave to the children certain special tests which he devised for the purpose. The teachers' estimates of the results of the tests did not prove to be as valuable as the series of ratings in school subjects from the fourth to the eighth grades. The problem which Kelly set for himself was to create a method by which he could infer the ratings of children in the work of the first high school year from the data concerning the work of the elementary school. He checked up his results with the actual ratings obtained in the first high school year.

By a method involving the derivation of some statistical constants whose nature is not generally well known and which for the practical worker may for the present remain a mystery, Kelly formulated equations in which one might substitute a child's known scholastic ratings in the elementary school and derive his most probable high school ratings. The agreement between the ratings thus inferred and the actual ratings was very close indeed. The difference was so small that in most cases the prophesy would serve perfectly well as a basis of judgment as to the success of a given pupil in the high school.

It is perfectly feasible for any bureau of research, to which you may send original data in the form of children's scores on any of the tests I have mentioned, to devise sets of such equations by means of which high school principals and teachers may estimate much more accurately than is now possible the probable degree of future success of their pupils.

It seems to me that we shall now have to proceed systematically to build up apparatus for classification and educational guidance. Taking a cue from the curriculum makers, we shall first analyze the abilities necessary for success in each of the high school subjects. If this can be done for insurance sales-

men and aviators, for cash girls and department store buyers, it can be done for students of algebra and history. A job analysis is made in part by obtaining the judgments of competent employees and by careful observation of their procedures while engaged in the job. Not unlike this would be an analysis of the job of a high school student while studying history. One might obtain from teachers of history and from pupils themselves a notion of the qualities required for success in the subject. Careful observation of a series of typical history recitations and of the habits of study of history pupils would reveal additional points in the analysis. At present we do not know either how much of what we presume to call general intelligence or how much of certain special abilities are required in the study of history. Nor do we know in any definite way the particular skills, knowledges, and attitudes brought into play in the successful learning of history. Just as the curriculum maker, after his analysis provides working units for inclusion in his curriculum, so the psychologist may organize tests which will detect the presence and define the amount of the abilities previously found to be necessary to success in any high school subject.

In the analysis of the requisite abilities and in the organization of suitable test material, the role of the high school teacher is not less important than that of the psychologist. Perhaps one of the reasons why we have advanced no further than we now have toward workable methods of educational guidance is because the psychologist and the practical teacher have worked, so to speak, in water tight compartments. The psychologist has done his work in the laboratory and the teacher has done his work in the class room. It is time for both to understand that the class room is a laboratory; and when this is understood, the psychologist will bring his skill to bear in a more practical situation, and the teacher will realize that experimentation is a proper classroom activity. At every point, the psychologist will need the teacher as much as the teacher will need the psychologist. Indeed, the teacher will become something of a psychologist, welcoming the opportunity for experimental work and keen to appreciate the bearing which the ordinary class room activities have upon larger issues.

The steps involved in this co-operation between the psychologist and the teacher are first, the job analysis, i. e. the analysis of the pupil's job, is primarily the opportunity of the teacher. Second, is the organization of test material with reference to the analysis. Here the psychologist will take the lead, but he will welcome the assistance of the practical teacher. Third, the new test material must then be submitted for trial and here the class room becomes the laboratory. On the basis of this trial, certain reorganizations of the test materials should be made and a retrial may ensue. Indeed, trial and reorganization may alternate with each other several times. Fourth, after the final reorganization, or, perhaps during the process, the test material must be standardized. That is, it must be given a standard procedure. Directions, for example, must be devised whose daylight clearness will make the tests fool-proof both for examiner and examinee. Moreover, the method of scoring must be simple and uniform. The results of the tests must be evaluated. That is, their significance and reliability must be determined. Finally, there must be established for each of the tests norms for certain groups of individuals and limits between which prophecies may be made with an assigned degree of probability. It is not until this last link in the chain has been forged that we have an instrument for the purpose which we have in mind.

A great deal more test material of a given kind must be provided than is needed in a single test. If, for example, we are trying to determine the musical ability of high school children with a view to defining their course in music, we shall need several alternative forms of our musical ability test. Much use of the test material leads to familiarity with it on the part of the pupils, and as a result scores are often inflated and misinterpreted.

You will readily see, therefore, that I view the matter of intelligence testing for the classification and guidance of high school pupils as almost an uncharted country. We have, indeed, driven down a stake here and there and run a few courses and distances. From Proctor's work published in *School and Society*, October 19 and 26, 1918, we learned a few things about the expectancy for high school pupils having certain degrees of intelligence. In that article Proctor indicated that a large amount of new testing would be undertaken and would constitute the material for more searching analyses. The kind of testing which is really worth while is the kind that is carried out over a series of years during which the same individuals are kept under observation. This is the kind of work Proctor has been doing. He is about to bring out three more articles on the subject. They will be published in our new *Journal of Educational Research*. The first of them which is already in hand is entitled "Psychological Tests as a Means of Measuring the Probable Success of High School Pupils." In this article Proctor relates how two and a half years after his original investigation he again tested the same pupils as before. He modestly says, "the results of two and a half years of follow-up work seem to indicate that the person who made the original tests . . . would have been in a position to give very helpful advice to all the pupils tested by him; also that his predictions as to the possible educational future of each of these pupils would have deserved serious consideration by parents and teachers." Retrospectively, he places himself in the position of the examiner two and a half years earlier and the future is thus revealed to him. At the end of these two and a half years none of the pupils who at first had tested below 80 were to be found in any high school. Indeed, only 28 of those testing between 80 and 89 were still in school. When we remember that 100 means normal, we readily see how severe the high school course is, since it kills off so great a majority whose mentality is but a little below normal. On the other hand, Proctor found that every single pupil who originally tested 110 or better was still pursuing his high school course.

In conclusion, I wish to point out that the subject of this paper was assigned to me by others. Recognizing it as a vital question, I accepted the task of presenting the evidence bearing upon it. As has no doubt been clear to you, I have found very little evidence but rather more theory. Perhaps I have only added to the theory. In all the attention which I have given to the question, I have continually realized the opportunity which a study of this question involves. I suggest to this administrative section of the High School Conference that you as high school teachers and principals insistently demand co-operation with the psychology department and the Bureau of Educational Research of the University of Illinois, and that we attempt to work out a plan for studying this question of educational guidance through the use of psychological tests. You will get what you demand! We should not enter into such an arrangement, however, unless we are prepared to carry it through over a series of years to a satisfactory conclusion. Educational research is replete with fragments of studies with attractive impromptus. We hasten to draw our conclusions. Someone has said that the point where a man draws his conclusions is the point where he stops thinking. What we should do in this matter, if we do anything at all, is to plan for studying this problem long enough and hard enough to arrive at something fundamental and satisfactory. Let us enter into an arrangement whereby we shall do a little persistently and regularly without allowing our hands to be forced by those who clamor for an early result. At present the center for study of this kind is at Leland Stanford Junior University, but nowhere is the need for work of this sort more keenly felt than it is among certain members of this section of the High School Conference. I know this to be true from conversations I have had with you. Let us, therefore, get together on this matter and see if next year we cannot make our first progress report and thus create a new center for this sort of study in this State University. For such a University is really the sort of institution which is most appropriate for it.

Report of the Working of the Smith-Hughes Law in Illinois **Professor A. W. Nolan, State Supervisor of Agricultural Education**

The passage of the Smith-Hughes Vocational Education Act by the National Congress in 1917 gave to Illinois a definite plant under which to embody all the sentiment and interest in vocational education which had been aroused through conferences and legislative effort in former years. It is a well known fact of history now that Governor Lowden in November, 1917, by executive proclamation accepted the provisions of the Federal law, and appointed the Illinois Board for Vocational Education consisting of the Director of the Department of Registration and Education, Chairman, Superintendent of Public Instruction, executive officer, the Director of the Department of Agriculture, the Director of the Department of Trade and Commerce and the Director of the Department of Labor. This Board appointed three supervisors to direct the vocational work provided by the law, Mr. E. A. Wreidt for trades and industries, Mr. A. W. Nolan for Agriculture, and Miss Cora Davis for Home Economics. During the last session of the Illinois State Legislature a bill was passed accepting the provisions of the Smith-Hughes Act, approving the action of the Governor, and appropriating a sum of money to equal Illinois' share of the Federal fund.

With the financial backing of the Federal and State Government, with the moral support of leading school men everywhere, with an efficient organization in Illinois, tying the work up closely as an integral part of our present school system, the supervisors have gone forth at the request of local schools all over the state to assist in establishing departments of vocational education in accordance with the standards of the Vocational Act. These standards in the main are high, sane, and practical, and it is the impression of the supervisors from a close personal touch with the school folks and the people, that vocational education in Illinois under the Smith-Hughes Act is meeting with high favor and success.

If figures have any meaning in reporting the progress of vocational education in Illinois under the Act, the following are significant:

For the first year, ending June 30, 1918, twenty-one schools received reimbursement, totalling \$17,802.64. An additional sum of \$8,673.52 was granted by the State Board to the University of Illinois, the Illinois State Normal University, and the Southern Illinois State Normal, as reimbursement for teacher-training courses in vocational subjects. Disbursements are made from three funds: (1) Industrial and Home Economics fund, (2) Agricultural fund, and (3) Teacher Training fund. There was available from all three funds that year \$93,772.25. The Board was able to expend only \$26,476.16. Active promotional work could not begin that year until March, this fact, together with war conditions accounts for the relatively small amount of funds distributed the first year.

For the second year, ending June 30, 1919, fifty-nine cities and towns received reimbursements, totalling \$63,987.62. An additional sum of \$11,787.05 was granted as reimbursement to the University of Illinois and the Illinois State Normal University for teacher training courses in vocational subjects.

There was available in all funds last year \$137,581.93. The total reimbursement made \$80,747.82. The unpaid balance reverted to the Federal Treasury.

Beginning July 1, 1919, the available funds from the Federal Government for Illinois is \$181,391.61 and from the State fund, \$200,000.00, making a total of nearly \$400,000.00 for vocational education in Illinois.

A comparison of the departments of vocational work in each of the three phases in the first year of operation, with those of the present year, indicates the growth of vocational demands in the schools of the State.

IN INDUSTRIAL EDUCATION

(1917-1918)

One full time trade school
 Nine part time trade extension classes
 Twenty-six evening trade extension classes
 Two part time general continuation classes

(1918-1919)

Four full time trade schools
 Sixteen part time trade extension classes
 Thirty-seven evening trade extension classes
 Eleven part time general continuation classes

IN HOME ECONOMICS EDUCATION

(1918)

Seven full time classes
 Six full time classes in related arts and sciences
 Three evening classes

(1920)

Fifty full time high school classes
 Eight evening classes

IN AGRICULTURAL EDUCATION

(1918)

Fifteen high school departments

(1920)

Seventy high school departments

Recent legislation pertaining to part-time continuation schools grew out of the vocational education act. In Illinois, after Sept. 1, 1921, each school district, in which there are twenty or more minors above 14 and below 16 years of age (after 1923, 18 years of age), not in regular attendance at all day schools, shall establish and maintain part-time continuation schools, in which such minors shall receive instruction for eight hours per week, for the school term. At present such pupils must now attend such classes wherever and whenever organized. This law applies to *trades, home economics* and *agricultural* interests with equal force, and paves the way for an extensive plan of helpful education for a great neglected group of our young people.

The almost unanimous support of the vocational education bills, in both National and State legislatures, the hearty response of the people to the proposal for its introduction into the public high school, the enthusiastic and increasing enrollment of our young people in these courses, all signify to the faith of our people in vocational education.

Our greatest problem in maintaining the faith of the people in vocational education is to provide well prepared teachers and a high grade of vocational efficiency among the students.

Our school men, and even many of the vocational teachers, fail to get the vocational point of view. In Agriculture, for example, our teachers of vocational agriculture, must realize that they are training young men from 14 to 18 years of age, to go out from under their instruction and manage farms successfully as well as to be good citizens of the larger social group. This you will see requires exceptionally well prepared teachers. We must have teachers with adequate farm and trade experiences, with well rounded technical training in the vocations they teach, with broad and liberal culture and with a degree of professional training in the art of teaching.

The content of vocational subject matter must be scientifically organized for teaching purposes, and the students must be held to as thorough and as high standards in these as in non-vocational subjects. In fact, I believe it is true that you can and perhaps should put on the pressure and secure harder work on the part of the pupil in vocational subjects than you can in the non-vocational subjects. You can force hard and thorough work in making a machine, or raising a pig, but I doubt whether you can in getting a Latin lesson.

The progress in vocational education in Illinois under the Vocational Act has been gratifying to the friends of the movement, and satisfactory in the main to all concerned. This progress compares very favorably with that of other States. In agriculture, we lead in the number of schools carrying on vocational work. With the funds available, increasing from year to year, with our determination to maintain high standards of work, and with our unity system, combining the good judgment and cooperation of all friends of education, we shall surely do our part in training our youth for their life and work as good American citizens.

Reports from Schools Organized Under the Smith-Hughes Plan **Principal G. L. Harris, Galesburg**

The Galesburg High School has taken advantage of the co-operation offered by the state through its vocational departments, under the supervision of Mr. Weidrt, Miss Davis and Mr. Nolan.

In agriculture, under Mr. Nolan, we have three classes complying with the regulations of the Smith-Hughes Law. There are 58 students in these classes, and one class is made up entirely of girls. The work here has been particularly successful, and the projects which have been carried out include the hog raising project, which was reported by Robert Sutherland, one of our boys in the agricultural section of this conference. Our team of stock judges won the State Championship, and ranked sixth in the International Conference in Chicago. Mr. Adams, the instructor, has charge of farm project work during the whole year.

In the domestic science departments, we have 54 girls in sewing and 28 in cooking, who comply with the Smith-Hughes Law, and who take as their allied subjects, applied art, general science or biology in segregated classes.

In salesmanship, we have 15 High School students who are working after school and on Saturdays in the stores of the city, and there are also two down town classes which meet twice a week. Each of these classes are composed of sales persons who are spending their entire time in the work. Miss Bacon, of the Federal Board, has been here twice during the year and has spoken to the merchants of the city. We feel that this is one of our most prominent and prosperous courses.

In gas engine work we have 28 boys, all of whom comply with the Smith-Hughes Law. In the evening school there is a class of 12 men who fulfill the requirements demanded of evening school instructors. The Smith-Hughes fund is helping to pay the salaries of our teachers in agriculture, art, sewing, cooking, general science, biology, salesmanship and gas engine work. The work is so extensive that it is impossible to go into details in the time allotted me. We have in all 215 students in our Smith-Hughes classes, 183 of whom are full time High School students. The enrollment of the school is 900.

We feel that in a school of this size it is entirely practicable to maintain a course which provides Smith-Hughes training as well as college entrance preparation. Our problem, however, is to strike a balance between pure Smith-Hughes courses and other courses. For example, only 82 of our girls are taking sewing and cooking. We should have possibly 200 in these classes and expect to arrange the course so that this is an actuality. At least 100 of these should be

regular Smith-Hughes students. In conclusion, we can say very definitely that Smith-Hughes work is firmly established in our school, and that Galesburg is indeed benefited by the Smith-Hughes movement.

Vocational Agriculture in the Taylorville Township High School

By R. G. Beals, Principal

Work in agriculture under the Smith-Hughes plan was begun in the Taylorville Township High School early in July, 1918. The summer was spent by the High School director of vocational agriculture in visiting all the country boys who had been in school the preceding year, also those who were eligible for entrance, who had not been in school before. Some of the latter had just been graduated from the country schools while some had been out for one or more years since graduation.

The director explained the new department of vocational agriculture and the conditions under which the boys might take up agriculture in the high school under the provisions of the Smith-Hughes Law. He made an effort to build up the departments both for the sake of reaching as many boys as possible and for the sake of the department itself, since a good start would facilitate the ease with which the department could be made into a going concern.

Although a number of the boys whose homes were in town were visited and interested in the work of the department, the largest effort was expended on those who were already on the farms; as it was felt that the farmer boys are the natural field of endeavor in this particular line of vocational work.

The department as organized for the year 1918-1919 consisted of a total of forty-eight boys, not counting two or three who stayed only a few days in school. Seventy-seven percent of the enrollment in the department were boys from the farm.

A four-year course was organized in Vocational Agriculture under the Smith-Hughes Act.

The course is based on the one outlined by the State Board of Vocational Education and the University of Illinois. It consists of five double periods a week of school work, including laboratory, recitation, consultation and field trips.

Each student taking this Agricultural course must, under the law, carry out an agricultural project on which full financial accounts must be kept.

References used are: Bulletins and circulars from the various state experiment stations and the U. S. Department of Agriculture; several Agricultural Journals; Harper, Davenport, Plumb, Gay, Lewis, Coburn and Henry on Farm Animals; Lewis on Poultry, Conn and Eckles on Dairying, Warren and Boss on Farm Management; Hopkins on Soils.

The course is as follows:

PLANT INDUSTRY

Text: Productive Plant Husbandry, by Davis.

FIRST SEMESTER

Plant Life. The seed, its germination, the stem, leaves, roots and their action and relation to one another. Propagation of plants by cuttings; root, stem and leaf; by seed, by budding; grafting.

Seeds. Identification.

Fruits. Growing; culture of large and small fruits; pruning.

SECOND SEMESTER

Crop rotation.

Forage crops. Grasses.

Legumes. Culture, inoculation and uses.

Corn. Seed, testing, selection and judging small grains.
 Weeds. Habits and eradication; identification.
 Insect pests and plant diseases. Habits and means of control by spraying.

ANIMAL HUSBANDRY

Text: Beginnings in Animal Husbandry, by Plumb.

THIRD SEMESTER

The importance of Animal Husbandry.
 Breeds of horses, cattle, swine and sheep.
 Judging farm animals. This is done on neighboring farms where excellent animals may be found.
 Feeding of animals. Study of digestion; value of proteids, carbohydrates and fats. Feeding standard rations.

FOURTH SEMESTER

Dairying. Testing milk for butter fat, butter making, and the study of cheeses.
 Poultry. Care and management of home flocks.
 Judging of animals.
 Management of livestock.
 Common diseases of farm animals.
 Soils and soil fertility.
 Text: Whitson and Walster.

FIFTH SEMESTER

Conditions essential to plant growth. Moisture, temperature, essential elements, origin and classification of soils, organic and inorganic matter, climatic influences, residual alluvial, aeolian, loessial, glacial soils, soil acidity.
 Primary relations of soil to plant.
 Foods. Nitrogen, phosphorus, potassium, calcium, magnesium, and other important foods. Farm manures, soil analysis, commercial fertilizers, water and drainage, tillage and humus, soil management.

SIXTH SEMESTER

Plant and animal breeding
 Heredity
 Pedigrees
 Breeding
 Mendel's Law
 Prepotency
 Selection
 Building up a herd
 Variations, Systems of

FARM MECHANICS

Davidson's Agricultural Engineering

SEVENTH SEMESTER

Concrete work
 Rope work and knots
 Engines and tractors
 Farm machinery
 Eveners and hitches
 Surveying
 Farming buildings
 Drainage

FARM MANAGEMENT

EIGHTH SEMESTER

Profits of farming
 Types of farming
 Hired man on farm
 Transportation; its relation to farming
 Farm investments
 Diversified and specialized farming
 Intensive and extensive farming
 Maintaining soil fertility
 Size of farms
 Capital
 Method of renting land
 Man and house labor
 Equipment
 Farm layout
 Marketing produce
 Farm records and accounts
 A complete set of cost accounts
 Choosing and buying a farm

The home project work required in connection with the work outlined in the course of study divides itself into special projects and regular farm work, with reports on the same. In 1918-19, twenty-nine boys undertook special projects. The remainder did regular farm work.

The special projects were distributed as follows: Twelve students undertook corn raising; three, the raising of wheat; one, the raising of oats; two, vegetable gardening; seven, the care and feeding of hogs; three, the care of sheep; and one, the raising of poultry. The greater number of the special projects were begun in the spring and half of these will not be completed for some time.

But from those who completed their projects, we have the following report:

Two boys together raised ten acres of corn at a net profit of \$299.00.

One boy raised twenty acres of wheat at a net profit of \$168.78.

One boy raised fifteen acres of wheat at a net profit of \$322.21.

One boy raised one and one-half acres of oats at a net profit of \$56.82.

One boy raised vegetables on one-third of an acre at a net profit of \$25.35.

One boy raised three hogs at a net profit of \$57.43.

One boy raised seven hogs at a net profit of \$44.40.

One boy raised five hogs at a net profit of \$68.15.

One boy bought and cared for forty-eight sheep with a net profit of \$616.77.

One boy cared for seventeen sheep with a net profit of \$326.58.

One boy took as his project seven chickens and realized a net profit of \$6.36.

Some of the present class have already begun new projects to be completed some time next year. One boy has thirteen head of pure bred Duroc hogs, three boys have started projects in wheat, and one has become manager of a whole farm. The boys are encouraged to buy and sell on their own responsibility and are allowed time as part of their school work to attend sales in which they are interested.

The agricultural laboratory is not composed of laboratory in the school building alone, but any farm, field, herd or stable where there is material for a practical demonstration of agricultural work.

To further the work of the department a vocational agriculture club, under the direction of a faculty adviser and open to all students interested in agriculture, was organized on January 7, 1919, under the following constitution and

by-laws, a membership fee of twenty-five cents being charged to defray the ordinary expenses at the club.

CONSTITUTION OF THE CLUB

Art. I. The name shall be the Taylorville Township High School Agricultural Club. The object shall be to develop an educational and social spirit among its members and the community.

Art. II. Officers: The officers of the club shall be President, Vice President, Secretary, Treasurer, Critic, and faculty adviser. The officers shall be elected at the beginning of each school year.

Art. III. Sessions: Meetings shall be held once every two weeks. Special meetings and summer trips may be called by order of the president or advisor.

Art. IV. By-Laws:

I. Programs shall be posted on the bulletin boards two weeks previous to the meetings on which they are to be. Meetings may be postponed by order of the president.

II. Necessary standing or special committees shall be appointed by the president as needed.

III. Each member shall take part in the task assigned to him. Failure to do so shall incur a fine of fifteen cents.

IV. Dues shall be twenty-five cents a semester.

V. An annual banquet shall be held, members to be assessed when necessary.

VI. Order of business shall be:

Roll call

Reading of minutes

Program

Unfinished business

Reports of committees

New business

Adjournment

VII. This constitution may be amended by two-thirds of the majority present.

The club has met weekly except during the summer months alternating business meetings with meetings at which regular programs are given. The programs consisted of music, readings, discussions, and debates, with sometimes an outside speaker.

Besides regular business meetings and program meetings the club has devoted itself to a number of outside activities such as extension work, contests, and exhibits.

The club members took part in the judging contest at the State Fair and that at the County Farmers' Institute. They more recently conducted a corn show in which members only were allowed to exhibit, and gave medals and ribbons for the best exhibits.

The extension work was conducted with the assistance of the domestic science department in the neighboring country schools by evening meetings at which programs consisting of music, readings, discussion and debates were given together with some sort of refreshments.

It was felt that these meetings stirred up an interest and brought about a closer relationship between the farm communities and the high school. That they were satisfactory in the communities in which they were held is evidenced by invitations which have already been extended to the club to meet in other districts this year.

To bring about a greater understanding between the school and the home a banquet was given with the cooperation of the domestic science department by the club at the high school building. To this fathers and brothers of the club members were invited. One hundred fifty men and boys attended this banquet, got acquainted with one another, listened to speeches by Professor Nolan and others and took part in the discussions.

Stated in the words of one of the members of the club, "The object is to promote contests in plant growing and animal raising, and the holding of exhibitions of farm products grown or produced by members of the club; to encourage and promote agriculture as a vocation, in the school and at home; and to cultivate among the young people of the community a love for the open country, the farm life, and the country home."

This, it seems to us, is a good statement of the main purpose of the vocational agriculture department as a whole.

Centralia Township High School

L. W. Hanna, Principal

About a year before the Smith-Hughes Bill became a law, the Board of Education of the Centralia Township High School purchased a ten-acre plot of ground to be used as an experiment farm for the high school. A graduate of the Agricultural College of Illinois University was employed for a twelve-month year, the summer months to be given over to work of the school boys on the school farm and on the farms of the township. The soil in that part of the state in which our school is located is rich but acid, and calls for limestone and phosphate treatment in order to make it productive, so that the agricultural problems south of the B. and O. Railroad are entirely different from those of central and northern Illinois. Brawn alone will not produce crops. The farmer who tills his farm in the old way has no crops to harvest. The school therefore has a great field for work, not only among the boys but among the farmers who are the fathers of the boys.

Our school was already giving a three-year course in Agriculture and was carrying on some project work with the boys of the school when the Smith-Hughes law was passed and this federal money was made available to the schools of this state. Our school therefore received aid from the day the law was made applicable to this state. The Smith-Hughes law has been worth most to us not merely for the money which we have received, for the Board of Education was already willing to spend whatever was necessary to promote strong agriculture work, but it became most valuable to us through the excellent supervision and direction of the state supervisor of agricultural education, Mr. A. W. Nolan. Through his helpful co-operation we have been able to give vitality and direction to our work. The work has now been going on for two years. We have an enrollment of forty boys in the agricultural classes. Each of these boys carries on a project on his father's farm throughout six months of the year. The projects proved to be valuable to the boys from a financial standpoint as well as to the boy, to his father, and to the community from an educational standpoint. The following are typical of the projects carried on by our boys during the past summer:

FINAL REPORT OF SIX MONTHS PROJECTS IN AGRICULTURE

<i>Name.</i>	<i>Title Project.</i>	<i>Scope.</i>	<i>Expense.</i>	<i>Income.</i>	<i>Profit</i>
Lawrence Schierbecker	Dairy Records	6 cows	\$120.34	\$774.72	\$654.38
Richard Bierman	Strawberry Growing	1 acre	161.16	672.00	510.84
Lee Adams	Pig Raising	9 pigs	128.50	315.00	186.50
Ralph Hartley	Tomato Growing	1/5 acre	21.90	85.00	63.10
Thorn Neff	Strawberry Growing	3/4 acre	29.15	72.00	42.85
Earl Jackson	Potato Growing	1/2 acre	18.50	77.80	59.30
Morton Wyatt	Tomato Growing	3/4 acre	20.60	60.50	39.90

Our Board of Education purchased a Ford with a light truck body for the use of our instructor, who visits the boys and directs their work during the summer. Not only are visits paid to these boys, but to virtually every farmer within reach of the school. A blueprint has been made showing the location and size of all of the farms of the community and a brief survey has been made to determine the acidity of soil, the kind of livestock kept, the kinds of crops raised, and any other interesting and useful information available. Throughout the year bulletins which have to do with matters of interest to the farmers during the various seasons are sent out from the high school office. Each farmer in the community is urged to treat his seed oats for smut, to test his seed corn, to place his dairy cattle on a balanced ration, to have his cows tested to determine which are profitable and which are merely boarders. Every farmer in the community knows that the high school will make these tests for him, if he will call upon us.

A community center has been organized at a country school house in the center of our township. Meetings are held here once each month. At these meetings in addition to a literary and musical program, papers and addresses taking up the problems of the farmer are given. A definite program has been prepared for the farmers of this community, looking toward increasing the number of cars of limestone used by the farmers, the bringing into the township of blooded stock, the promotion of poultry raising, and of fruit growing, and all profitable lines of agriculture. These meetings are largely attended throughout the year, the crowd ranging in size from seventy-five to one hundred and fifty.

In the fall of each year, an Agriculture Fair is held in the high school, at which the work of the boys and of the men and women of the community is exhibited. This fair resembles in many respects the agricultural department of the old county fair. The cackling of chickens, the lowing of cattle, the braying of mules almost drowns out the speakers from the University who are carrying on a farmers' institute in the auditorium of the building. The farm women are not neglected in these institutes, for cooking and canning demonstrations are carried on in the Domestic Science department during the day. Genuine interest in a better community and in better farms is already being developed. Where prejudice formerly existed in the minds of the farmers against the high school which was drawing taxes from the farm each year, there now exists a warm feeling of interest for the high school and its work.

We are asking the people of this township to vote bonds on November 29th for a new vocational building. While we do not yet know what the outcome will be, it is a safe guess that in case this is voted down, it will not be by the farmers, for as one farmer remarked in the community meeting, "The school now gives our boys back to us with a renewed interest in the old place and we are for any institution which makes better farmers and better farms."

Rockford High School **Principal C. P. Briggs**

Rockford High School Smith Hughes Machine Shop Trade Course was organized in September, 1918, to fit boys of not less than fourteen years of age for useful employment in the Machine Shop trade.

It is under the control and administration of the high school. The plant and equipment of the high school shop meet the requirements as stated in the Smith Hughes regulations. The room is 40x80 feet, a one story building, well lighted by windows and electricity, steam heat, lockers, tool room with tool drawers, stock racks, etc. The equipment is first class, being better than that of many commercial shops in the city.

The school term is ten months of four weeks each and includes only such holidays as are commonly observed in public schools. The school week

consists of thirty hours of sixty minutes each. One half of this time is devoted to practical machine shop work on a useful productive basis fashioned after and comparable in economic value with the work done in a standard commercial shop. The methods are made to approximated apprenticeship trade instruction and trade shop practice.

(1) By building standard products, having a value comparable with a manufacturer's output.

(2) By avoiding the use of mere exercises unless there is a very definite reason for their use.

(3) By requiring all students to work from blue prints, accompanied by an operation sheet with printed instructions.

(4) By requiring the instructor to give working demonstrations when needed but leaving plenty of opportunity for the student to develop initiative and manipulative skill to perform the trade operations.

In mathematics, science and drawing, owing to the limited amount of time, the scope of the work is necessarily limited to little more than the minimum knowledge necessary to competency in the machinist trade.

English and Civics were given in a class separate from other pupils in the school but it was found desirable to change this plan and enter them in regular high school classes.

The boys take their physical education and hygiene with the regular classes of the school.

The first class to be enrolled numbered nineteen and began their work, as was stated, in September. They were very much interested for a time but soon became discouraged because they had to work longer than the regular day school. We were fearful for a time that the longer day for the trade course pupil would not work in the high school, but the work has started out in the second year very nicely with about twice as many pupils as we had to begin with the first year and the interest in the work, on the part of the pupils and on the part of those who come into the school to take up the work, is constantly growing.

The Smith Hughes Trade course pupils have done some very satisfactory work and if we are to measure the commercial value of the work comparatively I think we could not replace the work which they have done short of one thousand dollars. Following are the items with their commercial values stated:

Work completed:

6 Face Plates for lathe chucks @ \$10.00.....	\$ 60.00
1 Set Arbors from $\frac{3}{8}$ " to 2" advancing by $\frac{1}{8}$ ".....	60.00
6 Clamps for Machine Shop	18.00
1 Turret Tool Post	15.00
1 Glue Press for Wood Shops.....	45.00
Remodeling three Oliver Wood Lathes.....	75.00
Rebuilding four Wood Lathes from overhead to down drive.....	200.00
3 Tail stocks for Wood Lathes.....	30.00
3 "Tool Rests"	18.00
Power Instillator Print Shop	75.00
1 Tumbling Mill for Foundry	100.00
12 Center Reamers	6.00
36 Lathe Centers complete	50.00
Reamers and Taps and Milling Cutters.....	200.00
12 Face Plates for Wood Lathes.....	60.00
6 Oldham Couplings	30.00
	<hr/>
	\$1042.00

Rockford High School has a three year agricultural course and is conducting it as outlined by the Smith Hughes bill, although we are not operating it under the Smith Hughes bill because we haven't seen our way clear to have

our agriculture teacher visit the farms of the boys in the spring, summer and fall, in as much as he directs our garden club work during that time. We are hopeful that we may place this on the Smith Hughes plan another year.

For several years the principal and the high school teachers have desired a print shop for the high school. This year an opportunity presented itself for this to be realized. The owner of a well equipped shop in the city died and his widow offered for sale this well equipped shop at a very reasonable figure. The principal and teachers incorporated and formed the Rockford High School Student Publishing Company and financed the purchase of the Shop and the purchase of a linotype machine, making a shop with a total valuation of five thousand dollars. This is not a money making proposition but one of teaching, but we are hopeful to make enough money to pay for the shop thru the printing of courses of study, the blanks for the Board of Education, the school paper and the school annual. So far this year, the print shop has done \$1050.00 worth of work. It is the hope of the Publishing Company to justify their act far enough so that the Board of Education will take it over and make it a real factor in the development of workers in the trade. We expect to turn our plant over to the Board of Education next year, and offer courses in accordance with the plans and requirements of the Smith Hughes bill. We can easily do this as our instructor can qualify under the Smith Hughes act.

We believe these three different trade courses are worth while when handled in connection with our high school. They furnish just three other means of education, in addition to those that we already have, of offering an opportunity for taking care of the individual differences of our students.

Manual Training High School, Peoria **W. N. Brown, Principal**

- a. Machinists Class.
- b. Retail Selling Class from Department Stores.

MACHINISTS CLASS

The machinists class was organized Feb., 1918, and continued a year and a half. The work met the requirements of the State and Federal Board. The class began with sixteen boys between the ages of 14 and 16, and at the close of the year and a half in June, there were twelve boys in the class. But in September only three returned for this work. Five came back and wanted such work along with the machinists work as would enable them to enter college, to become engineers or other specialized work. As their parents joined with them in that request, we had to make the change for them to enter the college course or not get them in school. Four of the twelve did not return to school, but found positions. The class was discontinued.

This class lasted five months longer than I expected under the conditions. No arrangements were made for an advanced standing with the employers and no arrangement with the Labor Union as to apprenticeship work, and no outside credit was given in any way for their work in school because of local industrial conditions. The work is apprenticeship work and must be duly recognized by both Labor and the employer and school, if this work be successful, and some credit or better understanding must be had with colleges and universities for giving credit for this work if such boys may want to go on to college.

One of the biggest drawbacks to this work is the matter of text books. The work in the machinists class is made the center around which the other work must be gathered and developed; as the projects in the shop increase in difficulty and breadth of work, the academic work is reorganized so as to accompany the *development of the machinists trade*, and so far without adequate text or library books.

RETAIL SELLING CLASS

A part time class was formed from clerks from department stores. Twenty-one of the younger clerks from four department stores come to the High School an hour a day for four days a week for instruction in salesmanship.

This class was formed last February and met in the old high school building and was transferred to this school in September. The work of the class was approved last spring by the Supervisors and is even more successful this fall term.

It is this part time work where the Smith-Hughes Law is best fitted to help the schools, and possibly in the evening school.

2. AGRICULTURAL SECTION

A. MINUTES

A. M. Session

The agricultural section of the conference was called to order by Chairman D. H. Wells of Litchfield at 9 o'clock A. M., Friday, November 21. After announcements, reading of minutes, and opening remarks, the following program was given:

Address: Points of View in Vocational Agriculture—Professor George A. Works, Cornell University, Ithaca, N. Y.

Paper: Report of Progress in Vocational Agriculture in Illinois—James E. Hill, Assistant State Supervisor of Agricultural Education.

The two papers were followed by many questions and interesting and profitable discussions. After appointment of the Nominating Committee, the section adjourned until the afternoon session.

P. M. Session

The following program was given in the afternoon session:

Paper: Equipping the School Plant for Vocational Agriculture—C. C. Turner, Gurnee.

Paper: Connecting the Department of Agriculture in the High School with the Farming Interests of the Community—E. B. Henderson, Bridgeport.

Symposium: Four-Minute Talks—

The Vocational Agricultural Club—J. W. Adams, Galesburg.

The Agricultural Teacher and Boys' and Girls' Club Work—James H. Greene, State Leader, Club Work.

Teaching Vocational Agriculture at the Farm—T. W. Clarida, Centralia.

The Agricultural Short Course—L. F. Fulwiler, Mt. Pulaski.

Report: A Swine Breeding Project—Robert Sutherland, Galesburg.

The following members constitute the executive committee as completed for the present session:

H. F. Crosby, Paris, chairman, 1922
 D. H. Wells, Litchfield, 1920
 T. W. Clarida, Centralia, 1921
 A. W. Nolan, Springfield, 1920
 D. L. Reid, University, secretary, 1922.

The Committee on Accrediting Agricultural Projects was continued without reporting at the present session.

Mr. Carl Colvin of the University was appointed to make the special report of the Section before the General Session of the Conference.

The Section voted to accept the invitation of Mr. J. W. Adams of Galesburg to meet in conference at his school on January 30, 1920.

A vote of thanks was given to Professor Works of Cornell for his excellent and helpful address before the Conference.

The papers read before the section are herewith given.

A. W. NOLAN, *Secretary*.

B. PAPERS

Opening Remarks by Chairman D. H. Wells

In his opening address before the High School Conference a year ago, the Director opened the campaign in Illinois for the revision of high school courses of study. The need for revision was one of the logical results of the War. The method of revision was the main topic of his address. Dr. Charters discussed this same subject in his address before the Conference. Later a committee was formed which was named The Committee for the Reconstruction of High School Curricula. This Committee was made up of the chairmen of the various sections of the High School Conference or of representatives named by them from their sections.

In May a meeting was called of this Committee at Urbana. The object of the meeting was to discuss a method of attacking the reconstruction of high school courses or of setting up problems as objectives to be attained by the Committee in its investigations. At this meeting a number of definite points were discussed. Chief among them was the question of the method of investigation by which the Committee might attain its objective. Dr. Charters and Professor Hollister both made the declaration that for too long a time the formation of high school courses of study had been based upon the opinions of book makers and schoolmen. They both felt that the time had come when high school courses of study should be formulated not on opinions but on facts obtained from sources of a different nature. They suggested that in some way these facts should be obtained from those institutions to which boys and girls go for the means of earning their livelihood after they have left school. In other words and to illustrate, for this section they are of the opinion that in formulating courses of study for high schools that these courses should not be based on the opinions of bookmakers, supervisors and teachers of agriculture, but rather that we should in some way find out from the producers of agricultural commodities and manufacturers of agricultural raw products into manufactured products those things that should enter into a high school course in agriculture.

This Committee of Reconstruction of High School Curricula has undertaken a task which will cover a period of years but it is necessary for us to

make a beginning. We can not consider all at once the entire course of agriculture for high school students. It has seemed best that we should attack our particular problem at the easiest point. For this year therefore we have eliminated from our consideration the investigation of such particular subjects as farm animals, farm crops, soils and etc. and have limited our investigations to laboratory work in Agriculture and particularly to that phase of laboratory work which we take up as home projects. With this idea in mind there has been sent to each agricultural teacher in the state a group of three or four questions. These questions are for the purpose of ascertaining whether we can obtain from the farmers themselves certain facts of information with respect to Smith-Hughes Projects as they affect the business of farming and the boys themselves who are in time to become the farmers. It is true that the answers which you will get to these questions are nothing more or less than the opinions of the farmers. In addition to that we must devise some method of measuring the results of the Smith-Hughes Projects in terms of the objective which the Reconstruction Committee as a whole shall finally set up for agricultural education. This problem which we have set up for solution during this coming year is so small when we consider the reconstruction of the whole course for high school agriculture that it seems almost ridiculous but we hope from its consideration to be able to devise a method of procedure for the solution of the rest of the problem.

The Point of View of the Teacher of Vocational Agriculture* **Professor Geo. A. Works, Cornell University**

The task that lies before us as teachers of vocational agriculture is a very definite but not an easy one—it is that of fitting boys for profitable employment in farming. This objective rules out the problems involved in preparing the prospective farmer for his civic duties and responsibilities. The latter is an obligation that rests upon the school but it is the primary responsibility of another body of teachers. In our work as vocational teachers we shall, undoubtedly, indirectly contribute much to this end but our definite responsibility is to do all in our power to increase the productive efficiency as farmers of such students as may come under our tuition. Once this objective is accepted several important considerations become almost self-evident.

1. To carry this important work through to successful fruition, a teacher must be thoroughly familiar with farming as a result of first hand experience. He must have had good vocational experience over long enough time to become thoroughly familiar with farm practices and to be sympathetically appreciative of the problems of farm life. Since he is responsible not only for seeing to it that the boy knows how to do a thing but also for knowing why it is done in the given way, so far as the reason is known and is of such a nature that it can be comprehended by the boy of secondary school age, he must have had technical training in agriculture. The minimum requirement in this respect should be graduation from a college of agriculture. A further element that is necessary for those of you who expect to attain the highest degree of success is professional training. The problem you face as teachers of vocational agriculture is difficult. It calls for the utilization of the daily experience of boys living on farms as a basis for leading them to an appreciation of the science that underlies their vocation. Skill on your part will lead them from the "rule of thumb" stage to an intelligent appreciation of the fundamental principles of farming. The teacher with a mastery of the principles of his profession will attain a larger measure of success than would otherwise be possible. The fact that professional preparation was not offered when you were taking your technical training in agriculture is inadequate as an excuse

* Abstract

for your remaining long in ignorance of the fundamentals of your profession. The literature of your field in the form of journals and books may be too easily obtained.

2. The vocational point of view requires that consideration shall be given to the boys who are taking the work. The choice of a vocation is too serious a matter, and vocational education is too expensive to permit of boys who are not really desirous of becoming farmers being put into the work. There has been too much pressure exerted to get the boys into the work against their wishes. In many cases it has gone even further as is evidenced by the fact that boys who are manifestly the incompetents and lazy ones of the school have been put in the agricultural classes for no other reason. Farming as a vocation and a mode of life has reached the stage where it demands as good brains as any of the other walks of life. Those of us who are responsible for instruction in vocational agriculture in the schools must see to it that the work we offer challenges and holds the interest of some of the most capable boys to be found in the school. There is need for recognition of the difference, as an educational problem, that is presented by the farm boy in contrast with the city or village boy who comes to the work with little or no farm experience. In most sections of the country the work in vocational agriculture appears to succeed best in the smaller places where the majority of the pupils come with a background of vocational experience. I believe that the work in these places should be shaped to meet the needs of this group and that the boys lacking in vocational experience prior to entering the work and during the time they are pursuing it.

3. The instruction that is offered by a teacher who has accepted the vocational viewpoint will be greatly modified as a result. He will turn to the community in which he teaches and study its farming for the purpose of determining the content of his courses. He will be guided less by tests and bulletins and more by what he finds to be the problems presented to farmers in the community which he serves. Books and bulletins will not be discarded but they will find their place, not as guides to be followed blindly, but rather as means to an end—namely, aids to the solution of farm problems of the community. Too much of the teaching of vocational agriculture at the present time is so far removed from the experience of the pupils that it lacks in vitality. To do the right kind of teaching in this field you teachers must be close to the farms and farmers of your communities. The home project phases of the instruction will also be influenced by this point of view because you will lead pupils to see the value of selecting their agricultural enterprises from undertakings that are regarded by the farmers of the community as being worth while. Too many of the projects are trivial both as to scope and character and to remedy this is one of your problems.

4. A final phase to which I wish to call your attention is that in the organization and administration of the work, you must not become so centered in the four-year course that you lose sight of the possibility of there being need for courses of shorter duration. In some places there may be need for courses of only one or two years' duration. In other sections, undoubtedly, there will be found opportunity to develop courses of two or three months in length to be offered during the "dull seasons." The importance of such courses is realized when consideration is given to the fact that relatively a small percentage of farm boys is staying through the high school period and that we shall have not really accomplished our mission in this field until the last boy living on a farm has an opportunity to avail himself of instruction in his chosen vocation. This means much greater flexibility in administration of the work than obtains in most school instruction at present.

Report of Progress in Vocational Agriculture in Illinois

James E. Hill, Assistant State Supervisor

The purpose or aim of The Vocational Act, in so far as it relates to agriculture, is to give the farm boy an education which would help him to make a better living on the farm. Realizing that the study of agriculture as a regular class room subject would not and could not furnish this desired education, the originators of the Act hit upon the plan of combining the practical farm work with the study of the principles of agriculture involved, and gave to us what we now call the "Project Method of Teaching Agriculture."

Our progress in Illinois therefore depends upon our ability to give this type of education to the farm boys. We have progressed then just so far as we have really trained the boys to be better farmers. The degree of our progress is measured by (1) the success of the project method in the training of boys to be better farmers in those communities now teaching agriculture under Smith-Hughes plan, (2) the number of high schools which teach agriculture by the project method.

Some data, and a few comparisons will make clear to us the progress in Illinois so far as the number of schools teaching vocational agriculture is concerned.

Increase in Illinois from 1918 to 1920

	1918	1919	1920	% increase from 1918 to 1920
Schools	15	42	70	366
Students	323	1136	1618	400

Increase in Schools Teaching Voc. Ag.

	1918	1919	% Increase
United States	609	863	41
Illinois	15	42	180

Increase in Students of Voc. Ag.

	1918	1919	% Increase
United States	15,453	19,933	28
Illinois	323	1,136	220

Increase in Students of Voc. Ag. in the first 15 Schools Approved in Illinois

	1918	1920	% Increase
Students	323	446	38

In concluding, it may be of interest to know that there are more high schools in Illinois now teaching vocational agriculture than in any other state in the Union.

There is no scale or method whereby one can determine the degree of the success of the project method in the training of boys to be better farmers in those communities now teaching vocational agriculture. In order to get an idea of the success or failure of the project method of teaching vocational agriculture in Illinois, and also to bring up some of the difficulties the teachers have encountered for discussion at this meeting, we sent out from the state office a questionnaire to all the teachers of vocational agriculture in Illinois. Thirty-eight teachers representing communities from all parts of the State answered this questionnaire in a way which showed they had put some thought on the matter, and had based their replies, not only upon their observation, but on opinions farmers had expressed in Farmers' Institutes, agricultural meetings and public gatherings.

QUESTION I. What do you believe is the frank and honest opinion of the farmers of your district concerning the home project and supervised farm practice?

I have tried to classify the answers to this question under three headings, 1st, those communities favoring this method of instruction, 2nd, those against it, and 3rd, those communities which are indifferent.

Thirty-five replies were received from this question. Two of these replies indicated that the communities were opposed to this method of agricultural instruction, and would rather have the school teach only the so-called "Book Agriculture" leaving the practical application to the farmer. Other farmers in these communities have expressed the belief that the project work was "more school foolishness."

Eight replies indicated that the farmers in those communities do not care how the school teaches agriculture.

Twenty-five replies state that these communities are in favor of the home project and supervised practice as it is now being taught in the Smith-Hughes high schools. That these communities are in favor of the work has been shown by the close cooperation with the Farmers' Institute, County Farm Bureau, and other agricultural organizations. In some communities the Farmers' Institute have helped by selling the stock which the boys raised; other communities have loaned money to the boys so they could buy good stock to work with in their projects. These are, at least, indications that this is the kind of agricultural education the farmer wants for his boys.

QUESTION II. What project among your boys proved the most interesting?

Thirty-three replies were received from this question. Twenty-eight replies stated that livestock projects had been the most interesting and nineteen of these twenty-eight answers stated that the raising of hogs was the particular line of livestock projects which were of most interest. Four replies stated that crop projects were most interesting in those communities, while one reply stated that there seemed to be no difference in the interest shown toward different kinds of projects. The answers to this question distinctly show that the raising of hogs is by far the most popular project in Illinois. At least one reason for this will be shown in the answers to the next question.

QUESTION III. What kind of project in your communities were most profitable from a financial point of view?

The answers to this question were the same as the answers to Question II in all but five cases. That is, the projects which were most interesting were also the most profitable. Probably a better statement would be that the projects which were most profitable were most interesting.

QUESTION IV. What projects or farm practice, done by your students, contribute most, in your opinion, toward training the boys for efficient farming?

There were twenty-two replies received concerning this question. A few others stated they could not answer it.

The following are some of the projects which the teachers thought gave the best training for efficient farming: livestock, dairy, hogs, alfalfa, soil improvement, corn, any project where the boy solves his own problems and meets competition, farm practice, account books, etc.

We can see by this that no one or two projects can be the best projects for training efficient farmers in all parts of the state. Each section of the state has its own system of farming which seems to be best adapted to that section. The replies indicate that the project on the special phase of farming adapted to that section of the state is the best in training efficient farmers for that locality.

QUESTION V. Mention two or three of your greatest difficulties in teaching vocational agriculture.

Summarizing the replies to this request we found the difficulties mentioned by all the teachers are included in fifteen common difficulties. I have placed those difficulties, which seem to be related to each other and which may be included under one big difficulty or branches of that difficulty, in groups, thinking that by studying the groups as a whole we may be able to work out a remedy, to some extent for nearly all of the difficulties mentioned.

GROUP I.

1. Getting the project started.
2. Getting reports from students on time.
3. To make laboratory trips in eighty minutes.
4. Lack of equipment for laboratory work.

The solution of the above difficulties, as it appears to me, is a problem of each individual teacher and can be overcome only by energy, enthusiasm, and perseverance of the teacher. It is not a question of how to do, but a question of *detail* for the teacher to carry out. Our discussions, however, will help in solving these difficulties if the teachers who have had little trouble in carrying out these details will tell us something as to the methods which they used.

GROUP II.

1. Suitable projects for boys who live in town.
2. Suitable projects for country boys who board in town during the winter months.

These two difficulties are difficulties which are confronting several teachers. The first of the two is not as serious as the second. If the town boy is really interested in vocational agriculture, I believe that he can find a place to carry on his project. This problem has been solved very well in several of our schools. At Bridgeport the agriculture teacher has made arrangements with the oil companies so that his town boys can have all the land they want for carrying on their projects. At Spring Valley, hog houses and poultry houses have been built by the boys on the school grounds. The town boys carry on their projects there. Several other schools are intending to help the town boy by erecting hog houses, etc., on the school ground. The second difficulty mentioned in Group II is very hard to meet. The boys who board in town during the winter are the type of boys who need this vocational agriculture. So far this difficulty has been met by letting the boys carry on projects on the school grounds or requiring them to take crop projects. By going home on week ends and missing some school the boys can complete a six months crop project. Any suggestions on this difficulty will be an aid to several teachers.

GROUP III.

1. Making class work run parallel with farm work.
2. Hard to study only part of subject and leave the rest until another season.
3. Not enough time for the teacher.

We are training the boys in our classes to be farmers. As farmers these boys will be interested in the job going on on the farm at present, or the job which must be done in the near future. The farmer, in the fall, is interested in the selection of seed corn, harvest of corn, etc. In the late winter he is interested in testing of seed corn, and spring in preparation and planting of the corn. Let us place our students in the place of the farmer he is to be, and help him solve the problems at the same time and in the same manner that he will have to solve them when he becomes a farmer. In order to study these jobs as they become of importance to the farmer, the agriculture teacher will have to spend a great deal of time in organizing his work so that the boys can either

see or participate in these seasonal jobs. Before making a trip to see any farm operation, farm animal, etc., on the farm, the teacher should outline the object of the trip so that the students will have some definite things to look for or study. The next day or as soon as there is opportunity, the teacher should place before the students all the detailed information available concerning the object of the trip. This will give the boys opportunity to answer the questions which came up on the field trip. If all the seasonal jobs could be studied in this manner the boys, at the end of one year, would have a pretty good idea of the farmers' problems and how to meet them. I realize that the biggest difficulty in carrying out this method is because the teacher has not time to get all this material ready and also teach as many periods in school as most teachers are required to teach. The difficulties placed under group III give ample opportunity for beneficial discussion.

GROUP IV.

1. Lack of interest by pupils.
2. Getting father to give the boy time.
3. Keeping accurate records.
4. Poor livestock to work with.
5. Lack of cooperation of parents.

This group includes the difficulties which most of the teachers have experienced. The teachers who have had the least amount of the trouble expressed in the difficulties in Group IV are the teachers in communities where the boys carry on large projects. The eradication of these difficulties seems to be in making the boy's project big enough so that he will make money out of it if he completes the project in the right manner, or loses money if he does not put forth his best effort to the job he has undertaken. Those projects, in which the boy has money invested, which will give him good returns for good work or poor returns for poor work, keep the boys interested, keep the parents interested, and is an incentive for accurate records.

GROUP V.

1. Making visits profitable.

This difficulty will be taken up at a later time by Mr. Clarida, agriculture instructor at Centralia.

Although the replies to this questionnaire show to us that all is not easy sailing, and that many difficulties confront us as teachers, they also show us that, as a state, Illinois has shown remarkable progress in accomplishing the aim of the Vocational Act. The teaching of vocational agriculture under the Smith-Hughes plan has been accepted by every state in the Union. Practically all educators believe in it. At the meeting of the American Association for the Advancement of Agricultural Teaching held in Chicago, November 11th, no other method of teaching agriculture was even discussed. The idea is right. The big job is to put it over. Mr. Hawkins, member of the Federal Board for Vocational Agriculture, said that the success of Smith-Hughes agriculture was up to the ability of the agriculture teacher to carry it out and into the rural communities. Illinois has shown real progress then because our teachers have carried this work into the rural communities and have shown these communities that the teaching of agriculture by the project method will train their boys to be better farmers.

Equipping the School Plant for Vocational Agriculture **C. C. Turner, Gurnee**

If I were to picture to you the ideal school plant equipped for vocational agriculture, I would go out to the small rural community where the school is the dominating interest, the logical gathering place of the people, where they come for knowledge, inspiration, entertainment, and social enjoyment. The

agricultural department in such a school should have the best that the community can afford. The school district becomes the laboratory of the agricultural instructor. A school located in a large town is in need of more laboratory equipment than the school that I have just described, because it cannot reach that wealth of material for laboratory use that lies in the surrounding country. In such circumstances, the teacher of agriculture, must resort to more substitute material in the form of lantern slides, charts, pictures, etc.

The agricultural laboratory should be on the ground floor and connected directly with the outside as a matter of convenience. I would have this room large and well lighted, and equipped with movable tables so that they may be moved against the wall for displaying exhibits during short course, or so that the cleared floor may be used for treating oats for smut, and the like. A good many mice proof drawers are needed for crop specimens and samples. An open book shelf is a convenient place to keep farm magazines and papers. I find that a steel filing cabinet is a good place to classify bulletins and project records, especially when shelf room is rather limited or when the mice bother, otherwise the card board filing boxes work all right. The agricultural library and bulletin board are essential features. A large table with a sink and running water are necessary. When the detailed equipment is added to such a laboratory it will serve very well the purpose for a course in plant industry, animal husbandry, in fact, all the common agricultural courses offered in high school, except farm mechanics of which I shall speak later.

In connection with the laboratory there should be some school land, just how much depends upon local conditions. At our school we have set aside one acre composed of five equal plots for a permanent demonstration on a crop rotation and soil treatment that was thot to be the best suited to the community. I hire a nearby farmer who is interested in the results, to do the work, otherwise I would spend a great deal of time borrowing machinery. As these plots get older and become more valuable we can hold a field day at the school. We have about one-half acre in a young fruit orchard and small fruits. Another half acre is used as a crops garden. Excellent use of this land is made in connection with horticulture.

I know you will pardon me for referring to my own school frequently because you see I happen to know more about it than any other school. Adjacent to my laboratory from the outside I have a green house, which I use in germination tests, and pot fertilizer tests in horticulture and soils. Even though I had the green house, I thought it best to make the outside hot bed and cold frames, because that is the apparatus that the boy will have to use at home. I do not consider the green house as a necessary part of the laboratory equipment and I am inclined to think that the time and effort in this work can just as well be spent otherwise.

As I have mentioned before, the laboratory I described above is not a suitable place for a course in farm mechanics. For that reason, my boys are now engaged in constructing a farm mechanics shop or a model farm repair shop as a class project. The class project determines, for a while at least, what shall be taken up as class room study. Further than that, the actual operation or laboratory work usually precedes the class room study. The information or instruction is given in the presence of the materials with the actual problem before us. Any review or additional information is secured from the text book and references. We study about concrete and form construction during the time when we are engaged in building the foundation and floors. Likewise, I show the student how to mark a rafter with a carpenter's square for a building with a pitch of one-third on an actual two by four. We are now engaged in placing the shop equipment and in this case the study of shop arrangement precedes the actual work. The study of bearings, pulleys and belts can be studied when the line shaft is being put up and the machines connected. The repair work on farm tools takes place next semester when the building is completed and the machinery installed. The main equipment con-

sists of a forge, anvil, iron vise, iron tools and cabinet, iron working bench, emery, grindstone, iron drill, wood working bench, wood working tools and cabinet, table circle saw, gas engine, and stove. All the machines will be driven by the gas engine. In addition, we have a fanning mill and seed grader for use in preparing grains for exhibits or projects. The mill is shut off by itself with a canvas curtain so that the dust will not get all over the shop. I find that the boys work better in pairs, rather than three or four in a group. There should be enough jobs to keep them busy, this means that the instructor has a good many irons in the fire at one time, which necessitates that the work be carefully planned in advance. The students in this farm mechanics class have had both manual training and forge work under the manual training instructor.

If I expect to touch a few more "high spots" which I have in mind, I will have to turn to the next topic, which is the kodak. I believe that the kodak is one of the finest pieces of agricultural equipment. It seems to me that this kodak is of more use to the teacher of agriculture than the vacuum pump is to the teacher of physics, and I am sure the kodak does not cost as much. I plan to build up the history of my department by filing pictures of the best projects, tours, trips to fairs, and other outstanding features of the work. I have a few pictures here to illustrate what I mean. Excellent material can be obtained for laboratory use as shown by these fine animals and this picture of a so-called alkali spot in the middle of a corn field. These pictures of local animals or farm conditions mean more to the boys than a whole book full of pictures taken in some other county or state. I plan to accumulate these pictures, and then buy a combination stereopticon and reflectroscope and to use not only the lantern slides, but the snapshots and other opaque pictures that are obtainable.

When you and I as teachers of vocational agriculture realize that community work is a very important part of our duty, we will not hesitate to secure additional apparatus which is not so closely related to our actual work in classroom instruction, but which is used in furthering the community spirit. Good community service raises the prestige of the teacher of agriculture in the classroom and in the school. The student often reflects unconsciously the opinion or estimation that his parents hold for the teacher. By winning the good will of the parents, you are laying a good foundation for service and no serious trouble is likely to occur with the student. Some of this equipment for community service is the high school printing press and the motion picture camera.

The high school printing press can be used in printing circular letters, school papers, programs, etc. A monthly or bi-monthly high school paper affords an excellent medium through which the teacher of agriculture can keep in touch with the farmers of the community. Of course, the local press may offer this opportunity to some of the schools, but in other instances no local press is available. Our printing press is ten by twelve. The manual training instructor teaches a course in printing. Too early results from the printing should not be expected because it takes about one semester for a student to become efficient enough to do dependable work. The girls do most of the printing work. In my opinion the school should have an enrollment of at least one hundred before attempting to operate a printing press.

The last, but not the least important part of the school plant equipped for vocational agriculture and community work is the motion picture camera. This subject deserves a good deal of attention and that. We have not answered this question in our own school yet. We have a curtain and a booth but not the camera. To test the motion pictures out the school board contracted with a motion picture owner to show ten times once a week throughout the summer. The results were clear enough to make these conclusions: first, that no amateur outfit would be satisfactory, and that the pictures must be as clear as offered in the nearby cities; second, that a fair amount of educational film was all

right, but in addition there must be at least half of popular reels; third, that the popular reels must be up to date and high class.

Connecting the Agriculture of the High School with the Farm Interests of the Community

E. B. Henderson, Bridgeport

The advancement of the American farmer, in the past few years, has been by leaps and bounds. The farm is fast becoming mechanically operated. Most of the operations are being performed by or with the assistance of machinery. Wheat was formerly sown by hand, cut by sickle, threshed by a flail and cleaned by hand in the wind. Now the ground is plowed by a gang plow, seeded by a modern drill, cut by a twine binder, and threshed and cleaned by power driven separators. Other crops have their special machinery. A farmer can literally ride his crops into the barn or granary.

The social condition and scientific attitude of the farmer has not kept up with the advancement of machinery. The mode of living and environment has caused the farmer to work out his problems individually. After a day of long hours in a field, bookkeeping and up to date topics have been neglected. A distrust and suspicion of his neighbors has kept him from organizing until recently. Now, the conditions are changing rapidly, the tide of organization among the farmers is rushing on, with such work flourishing more and more.

The field for the high school to work with the farmers is now just opening. In the past the school and the farm have stood apart, separate institutions; we might say upon separate hills; the school, to itself an institution whose members were not interested in the farm,—a human producing plant that did not study the demands or the conditions; the farmer, on another hill, looked with discontent and suspicion upon the school and allowing his boy to be taken away to a ribbon counter. But now many are beginning to realize that brains and training are demanded for success as a farmer or mechanic as well as for success as a doctor or a merchant, and that the work is quite as honorable. Thus the school and the public come to feel that the old ideas of education are not meeting the conditions of the present and are ready for the reconstruction period which is not to be a period of short duration.

The suspicion of the farmer must be overcome, the school taken to the farm and the farmer brought to the school, where he must feel a welcome. See that the laboratories of the agriculture rooms are equipped to aid him, and to give his boy a theoretical and practical training in agriculture, that will return him to the farm instead of sending him on to the city. Through such training, new ideals, greater efficiency and more scientific methods will be carried to the farm that will go a long way toward stabilizing the rural community. This latter problem is now in hand and must be solved before we acquire the needed social equilibrium. It will well pay the vocational teachers to spend some time in a study of social conditions, for they must be so inviting in the rural districts from every point of view that farming as a vocation stands an equal chance in competition with other vocations. First of all, farming must be so modern and scientific that the profits there from, warrant stronger support of the church, the school and places of amusement. The farm must be a prosperous and delightful place to live.

The time will never come when we can influence all the boys to remain on the farm. They never did and never will, and it possibly would be unfortunate if all the boys born and reared on the farm should decide to remain there. The world would have lost much in inventions and in the professions if all the boys had remained on the farm. Those whose gifts point them to other callings should go where their natural talents lead. What is possibly the case, many boys and girls have left the farm that should have remained there, and it is for this class that we want to make things so inviting, as

to encourage them to remain on the farm in the future. This will require a study of the rural home life, facilities for safe guarding their health, the structure of the farm house, its equipment for the promotion of family comfort and social life, the part of children in work of the farm and their relation to the farm income.

Too often in the past a partnership has formed between the father and son that has not been in good faith and when the animals or crops come to maturity, the boy is not known in the ownership. This is discouraging beyond the appreciation of the father and adds to the boy's incentive to search for more agreeable relations. With the aid of the vocational teacher who has the rural conditions of the locality in mind and the boy under management, the father may be encouraged to see to it that his children have opportunities on the farm, to cultivate every phase of the proper farm training. Thus through the project method the boy should be taken into partnership in many farm operations and should share in the proceeds. Only one project, whether it is grain, garden, poultry or live stock, properly carried on will show even the most unappreciative parents that the boy really can do things. For example, one of the boys in our school was allowed to attend school only during the winter term and during the course of the year several class room discussions were carried home and talked over between the parents and the son. Afterwards the father asked the son if that is what he learned in school and the father said that there must be something to book farming after all. The short time the boy spent in school resulted in starting him in project work, beginning with thirteen shoats and eleven acres of corn. The father was so well pleased with his son's work that he started him into school the first of September this fall. Few others will be as hard to convert to the projects as this man. Too often the effort has been to get the farmer to try new experiments which has resulted in more or less failure, but with the boys' project work we have struck the true course of getting in closer touch with the father. All eyes will be centered upon the thirty or forty boys working projects and the agriculture teacher must not fail to take advantage of this opportunity to work out other problems of the community.

There is so much that can be done to benefit the farmer, that the question may arise what to do. The more progressive and enthusiastic farmers will be ready to help us out of such difficulties and give pointers to each season's needs.

The newspaper will serve as a source to inform the people, of the work the agricultural classes are doing and a weekly article, written by the teacher, mentioning the methods of combatting insects, controlling diseases of plants and animals, the effect of lime and its application, etc. This will be greatly appreciated by the farmer and will aid the teacher in getting acquainted with the people, who have no children in school.

Demonstration work of various kinds may be carried out by the class. A group of farmers can meet at one farm where the boys may demonstrate pruning and spraying in the care of orchards, testing soil, treating grain, culling poultry and the like. The teacher may also lend his influence to have tractor demonstrations brought to the community. That is made possible by a close co-operation such as we enjoy between the manufacturer, dealer and farmer. Such demonstrations will continue to be valuable, until the farmers have become thoroughly conversant with tractors and the work they do. The day of immense tractor demonstrations nationally advertised and attracting large number of people, is about ended. The demonstrations that are most valuable now, are the small private ones given to a select audience, when the tractor may be seen to move across the field, to show the amount and variety of farm tasks that can be accomplished by mechanical power.

As the winter months come on, gatherings of the farmers may be encouraged and speakers brought in from the outside. Last winter the farmers in our locality wanted a speaker to talk upon the subject of dairying. They came

to the high school and asked for assistance. At once we got in touch with Mr. Wiggins of the State Dairy Extension Department, who sent us just the man we wanted. We held a big meeting at the high school auditorium. A cow was lead upon the platform and judged carefully. From the many remarks heard long afterwards by boys, farmers and business men, we feel that the meeting was a success in every way and we hope to have several such meetings again this year. At present we are carrying on a Dairy Campaign by holding meetings at various rural schools and intend to work up to a final big meeting later. In connection with this work comes the agricultural classes' part in local or country stock shows, farmers' displays and fairs. These to be organized for no financial gain but that the business man and farmer may co-operate. The boy as well as the parent should be given a place to show his products in competition with other boys and thus have the weak and strong points of his animal or display, pointed out by a competent judge. From such association, boys clubs should grow but often there is not a capable leader to push the movement, which will play such an excellent part in future agriculture. Especially is this true of the pig club. Stock raising now requires a theoretical and practical training. With feed, labor, and stock high, the demand becomes greater for a more thorough knowledge of proper feeding, breeding and selecting than in the past. The objects to be sought in a boy club include the above essentials for success and in addition to teach the members that the work is enjoyable, profitable, instructive and offers an opportunity for securing an agricultural education. There is no better way to get the practical training to the boy than through clubs. The teacher may advise the boy, encourage the father to furnish the pig and urge others to offer prizes and stock at reasonable prices, in order to promote the work and further the better live stock movement.

Other clubs will prove just as important and may be started with very little effort, as was shown by the work of a few men in our locality pushing a corn club. The seed was secured from money given by a progressive league and furnished free to the boys. The Bridgeport Stock Show backed the proposition by furnishing sixty five dollars worth of premiums. It was surprising the amount of interest and encouragement that was given to the thirty five boys who entered the club. They reciprocated by showing twenty one displays at the fair grounds in September.

The laboratory rooms of the Agriculture Department will be a big drawing card offering another opportunity for extension work, when the farmers see the advantages to be derived from them. His fertilizer samples, commercial feed, and lime stone may be brought in and tested, at a small expense of laboratory equipment. Often the teacher's advice will save him hundreds of dollars in the purchase of feed or fertilizer. Especially is this true now at a time when commercial fertilizers are being used in large amounts in the middle west and chemists at various agriculture colleges show that there is often a deficient amount of plant food, other than found in the manufacturer's guarantee. The laboratories may also become the center of activity for the testing of seed corn a month preceding corn planting season. In some places this may not prove a success because of the time required for testing. In our school we have one room fitted with corn racks and used for that purpose alone; with such an arrangement I find that six or eight boys can test twenty or thirty bushels of corn in a short time. If such a room is fitted it may serve as a drying room, thus the farmers can be urged to make field selection. Also a few hot beds in connection with laboratory work will be very beneficial to the community and serve to demonstrate a more universal use of them.

In many schools short courses in Agriculture may be conducted for the boys who find it impossible to attend school only between the periods of corn husking and spring seeding. I believe the education of many rural boys is alarmingly deficient and a great service could be rendered the community by such a course. It was my experience to have charge of a short course in

High School in Henry county. Here we had an average of twenty boys between the ages of fifteen and twenty one who attended school for three months agriculture work. They had had very little school work, possibly missing the spring and fall terms in the rural school. It was really pitiable to see so many bright boys denied so many educational advantages and this in one of the richest agriculture counties of Illinois. The boys were eager to learn, showing a willingness to work hard, and I have never enjoyed a teaching experience more than the three years I had with these boys.

In many schools where a short course for boys is not practical a few periods a day or a week during the winter months might be set aside for a farmers' course. Suggestions and demonstrations in the care of machinery would have much to do with eliminating the depreciation on farm implements and do away with the graveyard of farm tools, which we now find on a large percent of the farms. The ordinary farmer of today needs some practical study in the care of machinery as well as along lines of better crops and the improvement of plant and animal breeding.

These cover only a few of the many avenues for carrying on extension work. New plans and ideals must be worked out. Not only because it is our duty to the community but because we owe it to the State Agricultural College and Experiment Station. The State Agricultural College represents the highest planes in Agricultural education. The High School should be the link in the scheme of public education in Agriculture. Its extension work connects the college and the school, and the college and the farming population, to the benefit of all. The teacher may make this work effective in many ways. Bulletins that represent the investigation and study of agricultural experts, even though they are written in popular form, are often not understood by the individual farmers.

The teacher doing extension work is in a most favorable position to watch conditions and detect needs and pass on useful information concerning them to the college. When his interest is apparent, all kind of local agricultural information, of big or little importance will come to him. It will come through his visits to the farm, from the farmers, and from his pupils. No one has an opportunity for more intimate agricultural knowledge of the community than he.

Where there is no county advisor the teacher should exert a double vigilance in his extension work and keep in closer touch with the extension division of the agricultural college. When there is a county advisor, relation with the experiment station may be more remote, co-operation with the county advisor taking its place.

There will be many difficulties that will be encountered, it is true, but the teacher who wins the confidence of the community, makes haste slowly, does well what is attempted, secures the cooperation of the more progressive men, does more demonstrating than talking and avoids a superior or dictatorial attitude, will find that the farmer appreciates every effort made to help him, that farmers are strong supporters of vocational work and that the business men also realize the improvement in the form of vocational education and are ready to give their support to the improvement of rural conditions.

An Experiment on Profit from City Bred Pigs

R. W. Sutherland, Galesburg

My pig project was carried on in the same way that we carry on an experiment at High School. When I started I did not know what the results or conclusions would be. The purpose of my experiment was to determine whether or not it is profitable to raise pure bred hogs in town where the grounds are limited.

In February, 1918, my father selected a pure bred sow for me from the herd of H. F. Peterson. The purchase price was \$95.00. Her name is Proud

E Nuff Pathfinder, her sire is Bessie Good E Nuff whose dam and sire were both grand champions of Illinois in 1914. Her dam was by Pathfinder. She was of good type altho she was thin in flesh.

At that time I had no place to keep her, so I fitted up a stall in part of the barn at home. Here she farrowed 10 pigs, March 18th, raising seven. When the pigs were two months old they were moved to my farm. The farm is nine blocks from home and consists of four pasture lots and four garden lots for which I paid the annual rental of \$16.00. At first I only fenced one lot but now all the pasture lots are fenced and divided in several pens. By moving the pigs from one pen to another they had good pasture most of the time. My father and I dug what we called a well. It is six feet deep and three feet in diameter. Two bottomless barrels were set one on top of the other for curbing. This well being in a very low part of the pasture furnishes water most of the year. I made a very inexpensive sun shade out of second hand lumber.

In September I showed four of my pigs at the Galesburg District Fair. This was my first experience at showing and I learned some valuable lessons. My pigs took two fourth prizes which amounted to \$25.00.

October 10th, Proud E Nuff Pathfinder farrowed 12 pigs raising ten.

During the "Flu" vacation in October, 1918, I made my two hog houses. One is "V" shaped, the other is rectangular. The "V" shaped one was made entirely of second hand lumber. The cost of the material for both was \$12.00. In the winter I used the boards which had been on the top of the sun shade for a feeding floor.

The following March 10th my sow farrowed the 3rd litter. In May I sold Great Col. to W. A. Terpening, one of the leading Duroc breeders in this state, for \$500.00. A little later I sold five of the fall gilts to Caulkins and Swigert, two other well known breeders and exhibitors, and about the same time sold a fall boar and a litter mate to Great Col. to Mr. Terpening.

The 1st of July, I began fitting my pigs for the State and District Fairs. I exercised my fall boar by taking him for a half a mile walk every morning, and a little later began exercising the spring pigs. During the week of the State Fair I was sick and unable to attend. My father took my pigs up for me and came back with three prizes. At the Galesburg District Fair, which is regarded as one of the best animal displays of Illinois outside of the State Fair, two of my pigs took 1st and 4th in the open classes. The fall boar took 1st in class and Junior Champion. During the fair the Junior Champion fall boar and Proud E Nuff Pathfinder, the foundation sow, were sold.

One of the fall gilts that had been sold to Caulkins & Swigert took Junior and Grand Champion at Galesburg, 1st in class and Junior Champion at the State Fair of Illinois and 7th in a very strong class at the National Swine Show at Des Moines, Iowa. Great Col. took Senior and Grand Champion at Galesburg and 1st in class at Springfield.

The total amount from all sales including \$100.00 in prizes was \$6,272.00. Total expenses including original purchase, \$2,272. Net profit \$4,000.00.

During the whole project I kept a general plan of feeding. The larger part of the feed was ground oats. Very little corn was fed. I fed a slop consisting of about 70% ground oats, 15% ground corn and 15% ground barley. Tankage and condensed butter milk were added to this slop. I also fed green ground bone which I bought from a near-by butcher. It is a good bone builder and appetizer. My plan has been to keep some kind of green feed for the pigs at all times. In the summer I raise mangels, beets, rape, and other green feeds. The mangels make an excellent winter feed. This summer soy beans were planted in the sweet corn. In the fall I cut the green corn and gave it to the pigs and cow. Now, I am feeding the soy beans which the pigs are very fond of. Soy beans contain about 20% protein and are a very good feed.

I have found in my pig experience that if a person is going to make a success he cannot afford to be small. Great Col. was sold for \$500.00 and in

a few months Mr. Terpening refused an offer of \$7500.00 for him. People said that it was too bad that I had not kept him longer and gotten more money. I have never once regretted the sale. In the first place I could never have gotten \$7,500.00 for him because I was not a prominent breeder with a well advertised herd. Mr. Terpening advertised, fitted, and showed him. This advertised the rest of my pigs so that they were greatly in demand.

I agreed with Mr. Terpening that instead of paying a \$100.00 service fee for the third litter I would give him the choice pig. At weaning time two of the pigs were about the same size and were good show prospects. Mr. Terpening was anxious to have them fitted, shown and sold in his sale so they would advertise their sire, Great Pathfinder, which we agreed to. We were to pay the expense of exhibiting and he to pay the sale expense. The proceeds were to be divided equally. They developed so evenly that on sale day they both weighed 290 pounds in only good growing condition and sold for \$2,000.00, making Mr. Terpening's share or the service fee \$1,000.00. While this amount appears large for a service fee I received more for the one, than I could have sold the two for at private sale, and besides we had the publicity of having sold the highest price spring pig in Illinois at that date.

Therefore I say that it does not pay to be small in your dealings as a breeder. Even tho you think you are losing money at the time, you will come out ahead in the long run.

There are three things that a young breeder must do to be successful:

1st. Raise the best hogs possible, fit and exhibit them.

2nd. He must go in with a determination to stay, whether he wins or looses at first. When Great Col. was six months old he only took fourth place at the Fair and my highest offer for him was \$75.00. But by sticking to what we thought was a good hog we succeeded.

3rd. A beginner should sell his produce to the nearest prominent breeder who will advertise, fit and show them.

The conclusion to my experiment is that it is profitable to raise pure bred hogs in town where grounds are limited.

The High School Agricultural Teacher and Junior Extension Work

Jas. H. Greene

I want to take the first minute to give briefly an interpretation of the distinction between the Smith-Hughes Work and the Junior Smith-Lever Work. When the Smith-Hughes Act was passed, many extension people were much alarmed because it was found that it was possible under the Smith-Hughes Act to do practically everything that was being done under the Smith-Lever Act. In some states, iron-clad scraps of paper were drawn up in which one side or the other succeeded in putting a fence around certain territory. I must confess that we were almost guilty of doing the same thing in this state but better counsel prevailed and we came to the realization of two facts, namely, that if one or the other of the two agencies was on foreign territory a written agreement could not long withstand the pressure of natural consequences and second, that the folks in the field might have some valuable facts after a little experience which would out-weigh our theories. The way that things have worked out has exceeded our expectations and when I say that I want to start with a brief interpretation of the relation between the work I represent and your job, I want you to understand that a great deal of my original theory has been modified by your practice.

The Smith-Hughes Work, as I understand it, is *systematic* instruction which is to be carried on in more or less close connection with a school. The best practice prescribes that the farm and work shop shall be utilized as laboratories. Junior Extension or Junior Farm and Home Bureau Work as we call it in Illinois has for its purpose, the interesting of the young men and women, boys and girls in the work of the Farm and Home Bureaus and the things for which

they stand. In that the result of good Smith-Hughes Work does the same thing and that both agencies are interested in promoting the carrying on of farm practice under the best conditions, there is some identity of procedure.

It seems to me, however, that there is a vast difference in the way each agency should deal with the farm practice phase of its work. The word *project* is now a well-defined educational concept and has a place *only* in systematic instruction. In Illinois we have ceased to use it in Junior Extension Work and have substituted the farm management term, *enterprise*. A *project* is necessarily a more thoro-going affair than an enterprise, altho not necessarily larger in size. For this reason the enterprise is a useful vehicle for reaching the lad from 12 to 14 and perhaps pointing him project-wards. It likewise will reach the young man who is working on the farm but is *not* in high school.

The relation to the farm and home bureaus and the distinction between the *enterprise* and the *project* seems to me to be more rational lines of demarkation between Smith-Hughes and Junior Smith-Lever Work than those of age or even enrollment in school. I want to take the remaining three minutes of my time to give four concrete ways in which there can be cooperation between the two lines of work:

1. Agricultural teachers may act as leaders of junior clubs and advisers of senior clubs composed of individuals not in his classes. A junior club embraces an age-membership of 12 to 15 while a senior club includes those from 16 to 20. A senior club elects an adviser. Many Smith-Hughes men are doing this work.

2. Smith-Hughes students may act as leaders of Junior Clubs.

3. Under certain conditions if mutually agreeable to a County Junior Arviser and an agricultural teacher, it seems entirely reasonable for a vocational agricultural club or a group of Smith-Hughes students to affiliate with a County Junior Farm and Home Bureau. This is being done to some extent in Vermilion County.

4. Where time permits, and I wish to emphasize this proviso, it may be possible for a Smith-Hughes man, working with the Farm Bureau, to initiate and direct the junior work of the county. Mr. Turner of Lake County is doing this.

In conclusion I wish to state that I should be glad to have a committee appointed by this section to consider these and other suggestions and recommend ways in which the Smith-Hughes and Junior Smith-Lever Work can be mutually helpful.

3. BIOLOGY SECTION

Minutes of the Biology Section of the High School Conference

Friday, November 21, 1919, 9 A. M.

The Biology Section met in room 228 Natural History Building, with Dr. J. H. Whitten presiding.

Announcements were made of events of general interest to the Conference and a message from the Director of the Conference was read, by the Chairman.

The following program was carried out:

Report by the Section representative on the General Reconstruction Committee, by Dr. H. D. Waggoner. In this report Mr. Waggoner merely summarized the action of the general conference committee at its meeting in April.

Dr. Waggoner followed his report with a paper on Essential Objectives in Biology.

Paper: Fundamentals in a High School Course of Zoology—Miss Mabel E. Smallwood, Lane Technical High School, Chicago.

Paper: The Outlook for Biological Science in the Reorganization of Secondary Education—Professor J. L. Pricer, Normal.

Paper: Botany as a National Asset—Professor John M. Coulter, University of Chicago. This paper was read by Dr. John G. Coulter.

The last forty-five minutes of the meeting were devoted to a general discussion of the papers read and of the problems connected with the present and future status of biology in the elementary and high schools.

Agreements were reached on the following:

1. That much of what has been taught in biology in the past is not essential for high school students and that now the pressure for time requires that all non-essentials be omitted.
2. That the fundamentals of biology relative to healthful living, race improvement, and food production and conservation should be required of all students graduating from the high schools.

The following questions were raised and discussed, but were left open for more definite investigation:

1. Is the double laboratory period essential or desirable for efficient work in high school biology?
2. Has it been proven that the method which requires class room experiments by individual pupils, is more effective than the lecture demonstration method.

Volunteers were called for who would be willing to work on the above or similar problems at the request of the section officers and report at future meetings. There were a number of such volunteers.

Mr. Clarence Bonnell of Harrisburg Township H. S. was elected on the executive committee.

J. H. WHITTEN, *Chairman*.

MABEL E. SMALLWOOD, *Sec. Pro-tem*.

The papers of this section follow in the order of their presentation.

Essential Objectives in Biology **H. D. Waggoner, Macomb**

The reorganization of biology is a difficult problem. The vast amount of available material, and the crowded condition of the curriculum, make it very evident that only subject matter of the most fundamental and far-reaching importance may be retained. Doubtless, much that is highly interesting to some will have to be thrown out in order to make room for things that are more fundamental in the education of the child. Some materials that are of the highest importance for the specialist must be omitted, so that those subjects vitally concerned with the lives of the rank and file of the people may be adequately treated. A large portion of the matter that has been taught in the past

merely for the purpose of giving the child a complete view of the entire field must be cast out in order to give time for more intensive work upon those phases of biology with which all people are concerned. Whether we like it or not, biology, together with other high school subjects, is going to receive a severe pruning in the near future. In fact, this cutting down process has already been going on in some quarters for a considerable time.

Text-books in biology, and consequently, the materials taught in the classes have undergone great changes during the last generation, but these modifications are not sufficient, and more sweeping readjustments are imminent. The old books consisted essentially in a presentation of the complete view of the entire subject, as far as it was possible to present such a view, and no special emphasis was given any one part. The starfish or the seaweed was given as much, or more, prominence than the house fly or the group of disease bacteria. A number of years ago this type of book began to disappear and was gradually replaced by the more modern text that emphasizes those materials that are closely related to human welfare. But even with these texts, too much time is devoted to what many school men regard as non-essential and consequently the "organized biological sciences" have failed to hold their own in competition with certain other high school subjects. Just now, those who see the great value of biology in education, and who understand what the loss of these subjects from the curriculum would mean, are determined to reorganize this material to more nearly meet the needs of the times.

One of the gravest problems confronting biology teachers in this reorganization is the danger of losing the natural structural and physiological sequence of topics that is so important in botany, zoology, and human physiology. With our rapidly changing ideas in regard to the teaching of biology, we are apt to lose sight of the very significant fact that living forms and organic processes are so related in nature that the study of one form or process is necessary in order to understand others that, at first sight, may seem to be far more important in the education of the child. Protoplasm, wherever found, behaves much in the same way, and if biological materials are isolated and the natural relationships lost, superficial work will be the result. It is very questionable, for example, whether it is worth while to try to teach the essentials of human respiration without basing this study upon a previous knowledge of the nutrients, and the closely related physiological processes of digestion, absorption, and circulation. Likewise, an attempt to teach the practical treatment of wounds when the student has no adequate idea of the real nature of bacteria is practically certain to fall far short of what the work should accomplish. The care of open sores and wounds is a subject matter of the highest importance, but this work should follow and be based upon a knowledge of bacteria and their activities. Any adequate acquaintance with these forms must be obtained, through studies that relate them physiologically, and otherwise, to green plants, and to the more common fungi. There are times in the education of the child when we must teach isolated facts as such, without particular reference to causal relationships, but this surely is not sufficient when considered in relation to the education of the individual whom we expect to behave intelligently when confronted by the varying problems of after life. The understanding of the causal relationship is a prerequisite to truly intelligent action in situations arising therefrom. If biology should be cut to pieces so that there is nothing left but a heterogeneous mass of isolated, non-related facts, then the time shall have arrived to seriously consider the omission of this subject entirely from the high school curriculum.

There is abundance of material scattered through the fields of biology that is certainly of the highest importance in elementary education. Every person who has followed the trend of modern biological thought at all will agree to this. Wherever man turns he is confronted by living forms that are vitally concerned with his welfare. His food, his clothing, his health, yes, and life itself, are dependent upon the plants and animals with which he comes in contact, directly or indirectly. If it is an aim of education to fit the individual into his

environment, then this subject matter must be important. Together with this valuable material found in the various fields of biology there is much that doubtless should be omitted from the text that is to contain the "minimum essentials" of this subject. Just what to select for use in the high school, and just how to organize this material when once it is chosen so that it may be presented in a satisfactory manner, are questions of the highest importance at present.

In making our selection of material, we must hold continually before us some definite results that are to be attained by its use as educational matter. Otherwise, we may be led far astray by our personal interests and preferences, and thus fail in our efforts to improve conditions. In other words, it is imperative to recognize some objective of far-reaching importance, if such can be found, and to use this as a guide in the reorganization of the science. Education is now measuring the true value of a subject by the outcome upon the child's life. If we can discover objectives of sufficiently broad application, then we shall have the starting point from which to begin our work. The search is well worth while.

It would be difficult to prove that certain objectives must be the results to be attained by the teaching of biology. Fortunately, there is another possibility. We may *assume* an objective to be of value, and study it from various standpoints to determine how important it really is, and whether it is essential in the education of the child. It may be that we can find an objective of such obvious importance that no proof is necessary. If there are such available, then we may use them as measures, without delay, whereby to judge biological materials in general. When the subject matter that is to be used is once determined, the problem will be much simplified, and the organization of this matter into a form suitable for class use may be taken up with reasonable hope of success.

An objective that will best serve the purpose in the reorganization of biology, as indicated above, must possess certain definite qualities. 1. It must be very broad in its application and reach virtually all people of whatever class. If biology has materials that are worth while for everyone, then the objective that is to guide us in the selection of this matter must be one that touches the life of each individual. 2. It must be an objective that is vitally important in the education of the child. The number of high school subjects has become so great and competition between them has become so keen that only the materials of the highest value in education may be retained. 3. The objective for which we are seeking must be one that can be obtained best through the study of biology. Otherwise, there will be counter claims from those interested in other lines of work that would complicate matters. The ideal objective for our purpose would be one that is concerned only with the materials of biology.

There are many objectives that seem to be worthy of consideration. Among these may be mentioned, a knowledge of economic forms of life, familiarity with the methods of science, power of observation, development of the love of nature, the appreciation of the beautiful about us, and many others, if space permitted. Much may be said in favor of some of these objectives, and some of them are very important for certain classes of students, but, attractive as they are, can any one of them compete with the great aims of English, history, and certain other subjects successfully? Are they far-reaching enough in their importance? Do they appeal to all classes? May not some of them be attained through the study of other branches as well as in biology? May not some of them be accomplished incidentally in the study of materials taught primarily for some other purpose? We shall not stop to discuss these questions, for it would be hardly worth while. It is obvious that there would be differences of opinion, even with biology teachers, in regard to the ultimate value of every objective mentioned above. We do not mean to say that they are not important, for they are, but they simply do not measure up to what the objective must be in order for it to be of the greatest service as a guide in the selection of materials in the reorganization of biology, that we hope may make a strong appeal to the educational public for support. This appeal to those influential in educational matters, as

well as to the people at large, is absolutely essential if biology is ever to take the place in the curriculum that its importance justifies. Moreover, this may be done without cheapening, in any way, the subject matter of biology, either from the standpoint of thoroughness, or from that of ultimate scientific value.

An ideal objective is found in a *definite working knowledge of the factors that underlie the health and physical efficiency of the human body*. A healthy body and one that is physically efficient has a value, to the individual as well as to society at large, that can scarcely be estimated. Every child, no matter what his station may be in life, must have the knowledge whereby to be able to care for these priceless possessions. Any educational system that does not recognize this as a major aim, must fall far short of what it should accomplish in the life of the child. This objective is certainly far-reaching enough, and of sufficient importance, to satisfy the demands of the most exacting critic. Moreover, the materials necessary for the attainment of this objective, such as, the study of food in relation to its origin, its production, and preservation, the nutrition of the body in its broader aspects, and disease involving the myriads of plant and animal forms, are, first, last, and always, biological in nature. No other subject can hope to compete in this work, except in so far as it borrows conclusions and materials from the field of biology. Biology is indeed fortunate, in the possession of masses of material so essential for the accomplishment of this objective, —one of the greatest and most important in all the field of education.

Generally great opportunities are accompanied by heavy responsibilities, and the proposition we are considering is no exception to the rule. Every biology teacher should recognize clearly what is before us, and what this signifies to education, in general, and be willing and anxious to aid in every way possible in the accomplishment of this important task. It is high time for us to put aside personal preferences and prejudices with regard to subject matter, and to work with a will for an effective reorganization of the biological sciences. We must be willing to give and take in this work. The botanist may have to give up much material dear to his heart as a teacher, the zoologist may be grieved to find that quantities of the matter ordinarily taught in this subject prove to be nonessential, and those interested in human physiology may have to reserve for special students many things that, at present, are found in the elementary text dealing with the human body, and all for the sake of saving for the education of the child the absolutely essential subject matter of biology.

It is not advisable in this paper, that has taken up already enough of your time, to go into detail in applying this objective as a measure of the value of the subject matter in the various subjects that are concerned. It is pertinent, however, to indicate briefly how this may be done, and thus give some idea of the type of material that would be retained by its use, and thus to suggest to biology teachers, in general, just where discriminating judgment may be used to advantage.

In applying the objective to the materials of botany, it becomes apparent at once, that the central ideas that must prevail are the production, preservation, and use of food, and the cause and prevention of disease. In other words, the life cycle of the green plant together with the conditions involved in growth, and the lower forms such as bacteria, yeasts, and molds in relation to food and disease, must be retained to the exclusion of other subjects that do not pertain directly to the accomplishment of the objective, such as, the study of the alternation of generations in the various plant groups, and the long drawn out work upon the development of sex that frequently occupies so much time, and other topics of a similar general nature. These last named subjects are very important for the special student in botany, but they can contribute but little for the accomplishment of the objective under consideration, and, moreover, it is extremely doubtful, whether this material should ever be presented in a brief, elementary course that contains only the "minimum essentials," such as should be taken by every student who goes through the high school. To accomplish this, we simply must present material recognized as essential in the education of every

child. This is the primary reason that English occupies the time that it does in the modern high school.

In applying the objective to the smaller unit of material, such as the life cycle of the green plant, we must discriminate carefully between the matter that is directly concerned with the accomplishment of the central aim and that which is of secondary importance from this standpoint. Such subjects as, photosynthesis, storage and digestion of food in the plant, fertilization, development of the seed, germination, the relation of the plant to the soil, and others of a similar nature, are of the highest importance in giving a clear idea of the fundamental nature of food and nutrition in general, while such topics as, the forms of leaves, the variations in floral parts, the herbarium studies, the naming of plants as an end in itself, those microscopic studies of structure that do not throw definite light upon the important physiological processes, and many others, are of minor importance in the accomplishment of the aim and must be omitted. Likewise, we may eliminate certain matter of zoology and of human physiology as has been suggested in the case of botany. The ultimate outcome will be a mass of educational material suitable for the attainment of the aim we are considering. If this end is fundamental for the education of the child, then we have the "minimum essentials" in biology in so far as this one objective is concerned.

In this paper we have considered but one objective. It may be that there are others of sufficient importance to be included, at least as minor aims. If so, then the additional materials necessary for the attainment of such, may be added to that already assembled.

The question of organization of material does not come in the scope of this paper. It may be said, however, and no attempt is made to justify the statement for our time is gone, that when one studies through the field of biology with care, it is extremely gratifying to find how largely the natural sequence of topics may be retained in the organization of the wealth of easily accessible material included in the objective presented in this paper. Furthermore, from our present standpoint, it seems, not only unnecessary, but entirely inadvisable, to break up the natural sequence of topics in biology and attempt to replace this by a mass of material in which the physiological and structural relationships are lost.

The writer does not hope for anything like universal approval of this paper. There is too much evidence to the contrary. The true purpose of this effort is to open up a fertile field wherein careful thought may result ultimately in intelligent action.

Fundamentals in a High School Course in Zoology **Mabel E. Smallwood, Chicago**

My attempt to dissociate this topic from the one preceding it on the program has been only partially successful. It seems necessary to define an object before you decide what you must have to attain it, and I did not have Dr. Waggoner's paper for reference. You will therefore notice, I fear, some encroachment upon topics not my own. It is difficult, anyhow, to discuss a topic by word of mouth, in a straight line. Some arrangement should be made for talking in two dimensions, or even in three. It is as absurd to try to discuss the breadth of an idea in a line as to represent a plane by a series of consecutive lines. Pending such an arrangement, however, we must do the best we can, and I trust that you may get some idea of what I am trying to say. What I say must be old, because we are pretty well agreed on fundamentals, I think. We differ chiefly in the way we get at our objects.

The chief difference between a biological subject and any other is that in biology we have to do with life, and this we must emphasize. Life is absolutely the most interesting study in the world to a normal human being, and the more

alive an organism is the more it is interesting. My laboratory is fitted up with living plants and living animals in fairly equal proportions. When the students of zoology have a few odd moments they pet the guinea pigs, feed the rabbits, stir up the turtles, wonder what makes the snails move, and so on, as long as they have time. And when the students of botany have a few odd moments they pet the guinea pigs, feed the rabbits, and so forth, in the same way; which is not at all what they should do, of course, but it is what happens. A new plant will not be seen by any one for weeks, unless it has bright flowers, but a new frog is located almost immediately. We have been commencing our work with insects, most energetic of animals, and then progressively—or retrogressively—continuing thru Protozoa, which seem very active, if you magnify their rate, thru Hydra and many-year-dead, never energetic anemones and jellyfish, to the admirable and useful, but markedly slow and inane earthworm. In this course it is not as easy to keep up the enthusiasm as it is to create it. The spring semester has no such difficulty, for all the Vertebrates have plenty of life.

Now of course you are correct when you say that much of this interest is merely what most people feel in any thing which is in motion. People stand at a window and watch a machine at work when they would not give the same machine at rest a second glance. This is true enough; but interest of any kind is very useful when you are trying to teach some thing, and this general interest may soon be raised into a more intelligent and useful form. Moreover, as I said before, there is interest in life as life. The lowliest animal does not seem a mere moving machine, but appears to have some degree of volition, of spontaneity, and is interesting of itself. Life reactions are peculiar to living things, and are always of interest.

Pupils must get the idea of each animal at work upon its own vital problems, using such senses as it has to find out the conditions around it, knowing only those conditions which it has senses to report, adjusting itself as best it can to such surroundings, limited in its adjustments by its own physical construction, successful only as its senses report sufficiently and its body is able to respond. He must learn to think of an animal not as food for himself, not as dangerous to himself, not even as a pet for himself, but as a living organism with its own important problems, to the solution of which it bends every energy it has. Animals, then, must be kept in the laboratory or in the yard, where they can be seen every day, and must be so housed and cared for that they feel at home and will go about their business even under observation. This means trouble and care, I know, but it seems to me necessary. Animals are not clean and tidy room-mates, but that does not annoy most young folks as much as it does older ones, perhaps. An untidy room with hay in boxes where fugitive snakes may hide, oat bags in a corner with an escaped white mouse nesting there, meal worms in the feed, museum pests in the insect cases, wrigglers in a neglected tank, aphids on plants, teach much more to a high school pupil than the neatest and dearest of museums, with each specimen faultlessly mounted, beautifully labeled, and perfectly protected from his hands.

Not only must the living animals be observed, to see what they do, but their structure must be studied, to see what means they have for doing. This requires at least some detailed study of structure, not of all or even of most of the animals one uses, but of enough so that the pupil gets some definite idea of structure. Perhaps the exterior of most of the animals should be noted, with a dissection of one or two.

Another item for which zoology must be held responsible is the instruction of the community in many important matters. Zoology contains an immense amount of information, all of it interesting, much of it very useful, some of it even essential to successful human life. If information in regard to such things were fairly common, such community problems as house flies, mosquitoes, mice, rats, sparrows, would be comparatively easy to solve. If every householder in a community knew the habits of such pests, the pests would have a much harder time than they do now. It would not be necessary to have

laws about the disposal of garbage, for instance, if every one knew what happens to garbage left exposed.

It is well worth while to teach the intelligent care of pets. One hates to think of the unfortunate little animals constantly being intrusted to the care of well-meaning but ignorant individuals. Every year the little birds are brought to us nearly starved because they "won't eat," poor mites, tho they are sitting with their helpless mouths wide open and begging for food. If you could teach the one fact that goldfish do not like to be taken out of their house for a spring house-cleaning and re-decoration every day, it would save countless lives every year.

It would tire you unnecessarily to refer at any length to the important place the domestic animals hold in the life of man; but when you reflect upon this topic it will occur to you that information in regard to such animals is not by any manner of means common. Even the farmer's children in many communities know very little about it, and half the city children think that milk is manufactured chemically and bottled as pop is, probably, if they think of it at all. There would be much better cooperation between city and country if the city child knew more of the difficulties that are solved before he can buy milk and meat, shoes and woolen clothes. The actual information of zoology must be made more common. To this end the laboratory, indoors and out, must be full of material; living and preserved animals, books, pamphlets, maps, charts, magazines, pictures, must be freely at hand, so that they may be handled by pupils. The material will be worn out in the process, but that is what one should wish. It is what the material is for.

Zoology and botany have furnished to the world a number of big theories, with which every thinking man needs to be equipped. These theories must be illustrated in any worth-while course in zoology. For instance, the development from the simple to the compound, a most common phenomenon, may be shown in the history of the sewing-machine or the steam-engine, of course, but nowhere is it shown more clearly nor studied with more pleasure nor comprehended more easily than in the development of one-celled animals, thru colonies of cells and loosely united cells, to the highly-specialized, highly efficient many-celled animals, or in the growth of a single cell into a complex, many-celled body.

The expression "survival of the fittest and elimination of the unfit" seems to have had a frightful influence in the world's war, simply because the German nation interpreted it as my students always do at first, as the survival of the strongest, the fiercest, the most cruel; but it needs only a few illustrations to prove that the "fittest" seldom means the fiercest or the most cruel. It means more frequently the most amiable, the least offensive, the most attractive, the most useful; sometimes even it means the most inconspicuous, the quietest, the flattest. If your student acquires the idea that the animal which attends to its own affairs and leaves other animals alone, or that among men the one who does his share of useful work is the fittest and most likely to succeed, it is not time misused, certainly. And if further he acquires the idea that an animal succeeds exactly as it meets, or fits, the conditions around it, he may be inspired to study intelligently the conditions around himself and really meet them. This phrase then is one I would certainly teach.

Another expression often used and which means little at first to the average high school pupil is "division of labor." However, as she finds the work necessary to maintain a successful animal first done by one cell, then divided among a few slightly specialized cells, then among more highly specialized cells, then among organs, among individuals, among generations; as he sees cells unite their efforts, concertedly accomplishing great things; as he sees, too, the specialized cells dependent on other specialized cells, the whole organism more successful when all goes well but more open to accident as cells depend upon cells, he begins to get the ideas with which he must understand the development, success, and dangers for something more than cells,—for bees, ants, ungulates,

birds, and finally for man himself. History and sociology have here their roots in zoology.

Every human being should know the facts about reproduction, but these are so hedged about with conventions in human relations that they can scarcely be taught without shock and danger in other classes, not even in human physiology. But if one commences with conjugating *Paramecia*, heedlessly careering in a drop of water while they exchange minute particles of plasm, and progresses week by week with earthworms exchanging spermatozoa, clams setting free millions of eggs and sperm cells in a most casual way, frogs and fish dropping them more carefully but certainly in a way that can be freely discussed in any class, by the time the students reach more specialized methods they can discuss them freely and naturally, and can emerge from such a course with definite ideas on many things which have troubled them for years. In connection with the facts of reproduction must come the facts of inheritance, with as much of theory as the class can take and such illustrations as are at hand. The fact that like produces like must be hammered home. The production of new forms by crossing and selection must be taught, and the survival of old traits in these new forms must be emphasized. I would not wish to convince a boy that he must be like his worthless father, but I would that he has inherited a mass—and a mess—of traits, contrasting, opposing, aiding, and that his problem is to encourage the ones he wishes to develop and to strictly discourage those he dislikes. Environment affects as it determines which traits he will choose to encourage and which to discourage. The pupil must study animals in their natural surroundings, and see not only how an animal selects the best environment it is able to but also how it responds to these surroundings, as far as it can. And if he emerges with the conviction that an animal is found in a place that fits it perfectly rather because the animal has selected the place than because the animal has changed to fit the place, and if this conviction leads him to the belief that heredity rather than environment fixes most of the characteristics of an animal, it may aid him later in choosing an inheritance for his children.

Since I believe man to be a logical being, in spite of some evidence to the contrary, I think it necessary that the subject of zoology be presented in an orderly manner, or, if that be impossible, that it at least be frequently recapitulated and summarized so as to present in an orderly manner the facts learned up to date. This may be done by asking pupils to write rather elaborate theses, fully outlined and discussed in class, and by lectures and demonstrations on the part of the teacher.

To summarize, then, the points I have attempted to make:—

1. As many animals as possible should be kept alive and comfortable in the laboratory or the school yard, thruout the year. Other living animals should be brot in for a few days as needed, or should be visited by the class.
2. The laboratory must be supplied with abundant material and the resources of the region must be utilized to give as much actual information as possible.
3. The big ideas which have been introduced to the world by biology and are still best illustrated in its material must be emphasized until they stand for more than words in the pupil's after life.
4. The work must be orderly, or at least leave logical, orderly ideas in the pupil's mind.
5. The pupil must emerge with respect and admiration for life, wherever manifested, and with a permanent interest in living things.

The Outlook for Biological Science in the Reconstruction of Secondary Education

J. L. Pricer

Following some introductory remarks on the educational situation, Mr. Pricer proceeded as follows:

I am asked to discuss the outlook for biological science in the present reconstruction of education. This suggests at once the question:—What has biological science to offer to help meet the most pressing problems of the day? Before this question can be answered, we need to have before us, some of these pressing problems. If I should ask you, a body of teachers, what these problems are, you would all answer in a chorus that the high cost of living is one of them. This matter of the high cost of living is not a mere transient situation which will soon pass away, or that can be cured by legislation and the enforcement of law. Neither is it all due to the war, or to profiteering, or to the strife between capital and labor. There is something much more fundamental in it than any of these things, and by far the strongest defence that we have against it is the strong arm of science as applied to the production and conservation of wealth. The high cost of living has been gradually creeping upon us during the past twenty-five years, and it is a remarkable fact that during these same twenty-five years, the increase in the production and conservation of human food, clothing, building materials and other necessities, and the lessening of the labor involved in this production, thru the application of biological and other science has been enormous. Think of the human food that is now conserved and transported, and produced at comparatively little labor cost, thru the use of modern factory canning, cold storage, and refrigerator cars. The Bloomington canning company, this year, canned the sweet corn grown on over seven thousand acres of land. Before the days of the high cost of living, the crops grown on this land, were in very much less degree available for human food. Think of the lumber saving, now due to the modern process of treating railroad ties, mine props, and other timbers, and yet the cost of lumber has more than trebled in spite of this. What would be the conditions today, if we had been lacking the science involved in these savings and many others like them?

The two most fundamental factors in this situation of the high cost of living, are the passing of the free land, and the increase in the human population. The number of mouths to be fed has gained enormously on the number of acres to feed them. This increase in the population has been due largely to the efficacy of improved medicine, surgery, and sanitary science, and we have only just begun to save and prolong lives in these ways. We have no disposition to lower the cost of living by slackening our efforts along these lines. The recent brilliant victory of biological science over malaria and yellow fever may ultimately enable us to open up the rich tropical wastes for the production of human food and other necessities, but for the present, we must make the acres we have in cultivation produce more, and that which they produce must be better cared for. The most effective means for doing this is a more general education in certain phases of biological science. The heavy tax levied upon the food crop by insects, by rats and mice, by plant and animal diseases, by the rearing of unprofitable types of plants and animals, goes unchecked largely because of a quite general ignorance of some very simple biology which could be taught in the high schools.

Another pressing problem is that of individual and public health. The economic loss that still results from unnecessary sickness and premature death is enormous, to say nothing of the human suffering and grief involved. It is appalling to realize that most of our rural communities are little better off, from the standpoint of sanitation and general health conditions, than were such com-

munities when sickness was thought to be caused by evil spirits. It is a sad commentary on our boasted civilization that such organizations as the so-called "League for Medical Freedom" can flourish in our midst and have considerable influence on legislation; that the daily press of the country is crowded with the advertisements of patent medicines and quack doctors, and that so many people who are intelligent otherwise, fall victims to these imposters. The schools of tomorrow should correct these conditions and they can do so only by a more general dissemination of certain phases of biological science. It is high time that the schools themselves should be made models of health regulation and control, but this can be done under our democratic system, only by a generation that is trained in the science of health.

The solution of many of the pressing social problems of the day are at foundation biological. What can a generation, ignorant of biological science, and particularly of the science of heredity, do toward a permanent solution of the problem of the increase of the dependent classes? How can we ever hope to make much progress in the problem of better housing, and better working conditions in factory and mine until there is more general intelligence in regard to the biological factors involved in these things? The great industrial problems which are threatening the very life of the nation, are the natural outgrowth of selfishness and hazy and narrow thinking. The best antidote to this unhappy and threatening state of mind, is training in the scientific method and an inculcation of the true spirit of science, which is eminently unselfish.

In the light of such considerations, I am not discouraged over the outlook for biological science in the education of tomorrow. It is entitled to a large place in that education by virtue of the great mission that it is capable of performing for society, if it is given a chance. I am not one of those, however, who believe that merit alone will give to the subject, the place in the schools that it deserves. Too many of those who have that matter to determine are unaware of the qualities and content and possibilities of the science. It will devolve upon those of us who do appreciate these merits and possibilities to be the guardians, and advocates of the cause. If we are to win for biology, or for science as a whole, the place that it deserves in the scheme of education, we must set our house in order, and organize our case so as to win the verdict from a court that is already prejudiced in favor of something else, if not against us. Last spring, I attended a meeting of the general committee of this conference on curriculum construction. After presenting the plans that our science sections are working on, I was told very frankly and without a moment's hesitation, by the chairman of the committee, that it would be a long time before the high schools could permit more than one year of science work to be required of all students. There is a pretty general conviction among nonscientific principals and superintendents, that science has been tried and found wanting; that it has failed to produce the results claimed for it, and they are allowing it to disappear from their curricula, or to slip into the list of free electives. Furthermore, science as it exists in the schools, presents some unsurmountable administrative difficulties. Its demand for double periods is troublesome, and the great multiplicity of sciences asking for space, and competing with each other for the favor of the superintendent, make him more inclined to deny them all than to choose between them. What would you do if you were a principal, busy with the task of making a curriculum, if you found yourself surrounded by the friends of agriculture, and home economics, each asking for from two to four years of time, by the friends of botany, zoology, physiology, physics, chemistry, geography, and general science, each asking for from a half year to a year of time, to say nothing of the equally ardent friends of the nonscientific subjects? I venture the assertion that you would do much as they do, choose the things that you think important yourself, and put the rest in the elective list.

The whole trouble arises out of the fact that we have no definite program of our own to recommend, and so it becomes the paramount duty of the friends of science education to formulate a program which is administratively possible,

which is capable of meeting effectively some of the great social needs of the day, which can be met only thru a more general education in science.

The long list of distinct sciences found in the high school curriculums of the day, is the natural result of a certain stage in the evolution of science as a whole thru which we have been passing. The field of science and the mass of scientific knowledge has become so vast that it has become necessary to divide it up into almost innumerable narrow subdivisions, so that it might be possible for the research worker to become master of the known facts in the limited field immediately surrounding his problem. This tendency has gone so far, that science is not only divided into physics, chemistry, botany and the like, but botany has become, morphology, physiology, ecology, pathology, and bacteriology, to mention only the more important divisions, and these in turn have numerous subdivisions. This movement toward an analysis of science has been necessary in the development of science, and it is still essential in the interests of the research worker, tho if carried too far, it doubtless has some disadvantages there. I think that it is about ten years ago when I first heard Dr. Coulter, the next speaker on this program, call attention to the need for a reversal of this movement toward a synthesis of science, and he has emphasized this need on numerous occasions since, as he probably will today. If I have understood him rightly in these discussions, he has had in mind mainly the need for a synthetic organization of science for educational purposes, or the need for organizing science in such a way as to enable it to function in society. Science can not function in its minutely dissected parts. Every practical life problem to which science may apply, is a complex problem, involving more than one phase of science.

Now, in our science education, even in the high school, we have followed this analytical movement all too far, until we are not only embarrassed with more sciences, than we or anyone else knows what to do with, but even these distinct sciences, as represented in the texts, portray the further subdivisions of the subjects to the nth degree. Most of the standard science texts of the day, constitute more or less of a complete survey of the subject, with all of the latest subdivisions duly represented. I recall hearing, some years ago, a discussion between a superintendent and the agent of a publishing company over the adoption of a text in botany. The superintendent's objection to the book was that it contained no chapter on ecology, and the contention of the agent was that there was an abundance of ecology scattered thru the book.

If we were teaching science merely for cultural purposes, or for its value in mental training, I believe that this highly analyzed form would answer the purpose. In this form, it might have much the same value as Latin or mathematics, and I fear that these cultural values have been the principal values that we have been getting from our work. But I believe that we are all agreed that science has a different and a far more important mission. I believe that we are all agreed that it is the principal mission of science, and particularly of biology, to contribute to the material welfare of the race; to the increase in the production and the conservation of the necessities of life; to the preservation of health and the prolongation of life; and to an unselfish, unprejudiced, openminded, and clear thinking type of mind.

If we are agreed on these things, it would seem to me that it should not be an impossible task for us to formulate a program for the science work in the high schools, in harmony with these purposes, and one that would be able to make them a reality in the life of the nation. Formerly, it has been the supposedly necessary completeness of the science including all of its numerous subdivisions that has dominated the selection of subject matter. If we are to make science accomplish the purposes stated above, it must be the capacity of a given bit of subject matter to function in the daily lives of those to whom it is to be taught that must determine its selection or rejection. We must no undersand by this, however, that we are to select only those things that are in themselves, immediately practical. Such a selection of subject matter, must include many of

the broad fundamental principles of science, which in themselves as isolated principles, are not directly practical, but which at the same time, underlie and make intelligible all practical things.

The selection of subject matter for such a program will be largely a problem of elimination. We will have a superabundance of material that might be of service, and it will be our task to eliminate all but that which is most vital. In this task of elimination, I wish to suggest one criterion which I believe will be of service. As I see it, all science materials fall into two classes from the standpoint of their availability as subject matter for high school courses. First, there is that class of materials which are capable of expert application; the class of materials which can be made to function for the benefit of all of us, if only a relatively few experts know them. This class includes the materials which have application in the large organized industries, or that can be administered by trained public officials or other experts. For example, I did not need to know the process used in the manufacture of steel rails, or to understand the construction and method of operation of a locomotive engine in order to get to this meeting. Somebody else looked after these things for me, and I gave to somebody, probably not the ones who deserved it, a small tip for the service. In fact, the great material progress that we have made during the past hundred years thru the application of science has been almost wholly due to the application of such science as was by nature capable of application thus thru experts. There is another very large group of science materials which are, by their very nature, incapable of this kind of application. They are the things which must be understood and applied by the individuals, or small communities which are to derive the direct benefit. This class includes such things as the science of personal hygiene; of contagious diseases and the agents that spread them; the diseases of childhood which demand surgical or other attention; the management of insect and other pests in the home, garden and farm; in fact, most of the science that has to do with family and community life, with the work of the farmer and other isolated workers of every class—all are incapable of expert application, and if they are ever to be applied, knowledge of them must be made as nearly universal as possible. It is in this field that application lags far behind the discovery of truth, and it is in this field that science fails to function. During the war, an instrument was perfected for the detection of the presence of submarines and almost immediately all ocean travelers are relieved from the dangers of their ship colliding with an iceberg, because ocean shipping is an organized industry and can employ experts. During the war also, we had a wonderful demonstration of the efficacy of vaccination against typhoid fever, but there is little likelihood that we have seen the last typhoid epidemic, for in the last analysis, this is an individual matter and many people thru their ignorance will be skeptical.

It is these things then which can not function unless they are a part of the common knowledge of the masses, which should receive the principal emphasis in high school courses, and particularly in those courses which are to be required of all students. I believe too that in the school of tomorrow, there is going to be more room than at present for courses that are required of all. We have followed the idea of free election to the ultimate extreme, and it is only natural now that the pendulum should settle back in the opposite direction. With our growing social conscience, we are going to realize more keenly than ever before that the state educates the child, not wholly for the child's own personal benefit, but partly for the benefit of the state and the community in which he lives, and when we come to view the matter in this light, we will find ourselves justified in forbidding any high school pupil to remain forever ignorant of certain scientific matters which are vital to healthy and wholesome community life and to the production and conservation of the necessities of life. The potency of a scientific fact of the kind I have been discussing would be increased a hundred fold if it could be made common knowledge. It does me little good to know the dangers and the filthy habits of the house fly, if my neighbors still regard it as

an innocent annoyance, and raise it by the thousands, while if all my townsmen knew what I know about the fly, we would soon have a flyless town.

In our program for the science work in the schools of tomorrow, we need to give particular attention to the courses that are to be required of all, for it is these courses that will be most effective in bringing about the social and economic advances which we hope for as the result of improved education in science. This brings me to the question of what should constitute the science that is to be required of all and particularly to the question as to what part biology is to have in these courses. These are big questions and I shall not presume to answer them fully here. I am sure, however, that it will be undesirable as well as impossible to select any one, or two, or three, or four sciences such as exist in the schools today to be given this honor. The required of all science will have to be a new selection and organization of science materials, and these materials will be drawn from many sources, and will be selected on the basis of their fitness to accomplish the social and economic outcomes that are so much needed. I know that some of you are saying that that sounds very much like *general science*. It will be general, to be sure, in comparison with the highly classified and complete sciences represented in our texts on physics, botany and the like, but I wish that I could avoid the connotations of the term general science. I have tried to do this on a former occasion in this conference by calling it fundamental science as opposed to applied science, such as agriculture. General science, as it exists today, has its friends and its enemies, its faults and its strong points, and worst of all it exists in good, bad, and indifferent forms. The expression general science, does not mean exactly the same thing to different minds. It is difficult, therefore, to distinguish between general science, as it exists today, and the kind of science that I would select and organize to constitute the required of all courses for the high school. In selecting the materials for these courses, I would ignore the lines that separate the present highly specialized sciences almost as much as general science does. I would, however, divide these materials into two fairly distinct groups, each of which would be fairly coherent and capable of logical organization. If we could have two full year courses in science required of all, I would make one of these courses mainly from physical science materials, and the other mainly from biological materials. I believe that such physical science materials as would be selected for such a course, would be capable of just about as logical organization, as is elementary physics or chemistry, or physical geography, and I believe that such biological science materials, as would be selected for such a course would be capable of just about as logical organization as is elementary botany or zoology or physiology. The teaching advantages of a logical organization can hardly be overestimated. Things are learned much more easily and much more thoroughly when logically organized, than when this organization is lacking. The possibility of logical organization has been one of the strong points of our highly specialized sciences and yet I could mention several texts in special science which have largely ignored logical organization. The lack of logical organization and of coherence is one of the weaknesses of general science as represented in most of the existing texts. This makes difficult the mastery of principles by the pupils, and leads to a tendency to teach isolated practical facts, without giving them their proper setting and relation to principles. On the other hand, the highly specialized sciences make the teaching of principles easy, and this leads to the equally serious danger of teaching isolated principles without relating them to a sufficient number of practical facts, so that the pupils are left unable to make use of the principles in meeting the practical problems of life after they leave school.

It is my hope that we may be able to organize the materials of these required courses, in such a way as to avoid the faults that are more or less inherent in highly specialized science on the one hand and of general science on the other. The whole matter of organization however, is of less importance than is the matter of the content of these courses, and if we can agree on the content, or even on the basis of selection of the content, and on the outcomes

that are to be aimed at, we may leave to individual text book writers, and teachers, the matter of organization. The main thing is that we shall all teach in some fashion, the same things, and that these things shall be vital to social and economic welfare of the people.

If the friends of biology stand ready to enter into some such arrangement as I have suggested for the required of all science, there is no doubt but that biological science will be given the place that it deserves in the schools, but if we should still contend that the three special biological sciences must be kept intact and stand their chance among the array of other sciences, competing for the limited space that can be given to science, then, we must be content to have them remain on the elective list, and to be completely dropped from the curricula of many schools. This would be a national calamity. I am sure that in the past, I have defended the special sciences, and have pointed out the weaknesses of general science as persistently as has any person in this group, and it has been a hard personal struggle with me to come over to the support of a kind of science which superficially, at least, resembles general science in some particulars. In our study and discussions of the relative merits of special and general science during the past five or six years, I believe that we have all learned some things, and on the basis of this new knowledge, I believe that we are entitled to change our minds to some extent, and to make use of what knowledge we have gained in reorganizing our forces in the best way that we know, to meet the rather stern conditions which science education is forced to meet in this day. If I had the power of a dictator in this matter, I probably would decree the following program for the required of all science: One half year of physical science in the fall of the freshman year; this to be followed by a half year of plant studies; this to be followed by a half year of animal studies, in the fall of the second year; and this to be followed by a half year of health science. I am confident, however, that in our democratic way of doing things, this can not be accomplished, for it is mostly biology, as would be expected from a biological dictator. I am not certain either that this program would be better, or even as good, as a year of physical science, and a year of biological science, so I have adopted this latter program as a reasonable compromise, and I believe that it has wonderful possibilities if we can all get behind it. We must all get behind some program if we are to get anywhere, for after we once get thoroughly organized behind a definite program for science, we will still have ahead of us a desperate battle to have our program adopted by the superintendents and principals of the schools. If we make the modest claim for a minimum of two years of required science, in this day when science is so large a factor in life, I am sure that our cause will be the righteous one and will be sure to triumph in the end.

Botany as a National Asset **Professor J. M. Coulter, University of Chicago**

The title is justified by the fact that during the stress of war botany came to be recognized as of great practical importance to the welfare of a nation. The important fact is that the numerous problems that presented themselves could not be solved by the so-called "practical" men, but were referred to botanists with fundamental training, and much of this training had been regarded as very impractical. This experience has injected new evidence into any discussion concerning the place of botany in education. If it has been proved to be a national asset of the first importance, it is clear that citizens in training should come into appreciative contact with it.

For a clear understanding of the situation attention should be called to the two epochs in the history of botany as a subject for high school education. The first epoch is represented by the introduction of the subject. It was originally injected into the high schools by college teachers, who naturally employed college methods and standards. In other words, it was not developed from within

as a natural response to a specific need, but was imposed from without in a form already organized for a very different group. The form referred to involved not only subject matter, but also laboratory periods that did not articulate easily with high school schedules. It was inevitable that a reaction should come, and this reaction represents the second epoch.

When the problem of adjustment to the high school group was faced, great diversity of opinion was developed. When reactions occur, there are always at least three categories of opinion: (1) holding on to the old, but modifying it; (2) combining the old and the new; (3) rejecting the old completely and substituting the new. This means a state of flux. It is not for me to discuss all the details, for I have had no practical contact with a very important phase of the problem, and that is the group of students involved. However, other important phases of the problem are the subject itself, and education in general. It is in reference to these phases that I wish to speak, discussing certain fundamental principles which in my judgment should be applied to the group concerned.

In the outset, you should understand that I am in full sympathy with the general proposition to link up education with the activities and interests of life. I do not count that education good for much which does not do this; but I have been impressed with the imminent danger of distorting the real perspective, and of placing the supreme valuation upon things not entitled to so high a place, the danger being that we may defeat our purpose in education. I may be classed, therefore, neither as a conservative nor as a radical, but as a moderate, who sees good things in both and wants to secure them. In other words, we must continue to teach the fundamental facts of botany, but we must not allow these facts to remain in cold isolation, entirely unrelated to the activities of life. I wish to present the discussion under three heads.

I. Reasons for the use of the practical.

1. One great mission of science is its direct service to mankind. As I look at it, the mission of science is threefold: (a) to explore nature, that the boundaries of human knowledge may be extended, and man may live in an ever widening perspective; (b) to apply this knowledge to the service of man, that his life may be fuller of opportunity; (c) to use the method of science in training man, so that he may solve his problems and not be their victim.

It is obvious that the work of exploration, which we call research, does not belong to the high school; but the next service, that is, the application of science to human welfare, should be included in the high school contact. To teach the structure and functions of plants without relating this knowledge to the practical handling of plants is to miss the connection that makes knowledge permanent and serviceable. To teach the structure and function of a locomotive and not relate this knowledge to the problem of transportation is to miss the connection that counts.

2. A second reason for the use of the practical in high school botany is that there is an increasing realization of the fact that a knowledge of the practical aspects of botany must be shared by as many citizens as possible. For example, if more citizens had realized a few years ago how far our practice of agriculture had fallen behind our knowledge of botany, the problem of food production would not have been so serious. In short, a general essential practice is improved in proportion to the general intelligent interest in it, and in no way can intelligent interest become so general as through high school education. I have used food production simply as one outstanding illustration of this phase of the subject, but numerous other illustrations could be introduced to support it.

3. My third reason for the use of the practical in high school botany is pedagogical. It introduces the realities of experience, which always capture attention and interest. The bare facts of structure and function are of course

fundamental, but they are usually not attractive to the young student unless related to his experience. It is this stimulus of interest that leads to a grip of the essentials.

II. *The dangers.*

What I have presented is probably the opinion of most teachers, as indicated by the general movement to introduce the practical. The most timely phase of my subject, therefore, is probably a consideration of the dangers. There are at least three dangers that appeal to me as calling for watchfulness.

1. Over-emphasis of the practical. It is after all a question of emphasis, not of elimination. The practical is intended to connect knowledge with life. The danger is that the connection may be so emphasized that we lose sight of what is being connected. To develop practice that is not rooted in knowledge is like separating a plant from its roots. Every practice must be backed by its reason, and the more important the practice, the more essential is the background. I am assuming that as teachers we are undertaking to develop rational beings, and not automatons. It is evident that in education knowledge and practice should not be divorced. They are intended to be mutually stimulating. Knowledge alone is of no practical service, while practice alone is sterile. One mission of knowledge is to improve practice, while the mission of practice is to make knowledge of service. Our motto as teachers of botany should be a practice based on science, and a science that illuminates and extends practice. You may be interested in knowing that in the last few years practical organizations, such as the Department of Agriculture, the Agricultural Experiment Stations, and various industrial enterprises are searching for men trained in the fundamentals of botany. They have discovered that when practice is bedded in knowledge, the worker has far greater facility in adjusting practice to conditions and in improving practice. In other words, he can contribute the intelligence of a student rather than merely the automaton-like service of an apprentice.

2. The second danger calling for watchfulness is the elimination of phases of botany with no apparent practical application. Even if we have established a just balance between knowledge and its applications, without over-emphasizing either, the tendency is to omit all knowledge whose application is not obvious. The practice of agriculture, for example, is such an outstanding application of botany that the danger is that botany may become only scientific agriculture. Such limitation of the field of botany to a single practice would defeat the general purpose of education. This is not a plea to include in our high school botany the obviously impractical, but it is a plea that in developing the obviously practical, with its scientific background, the other large phases of the subject be not ignored entirely. This invests the actual with a penumbra of the potential, and incidentally develops some real perspective, without interfering with the immediate purpose.

3. A third danger to be guarded against is such an exclusive emphasis upon the practical that the only value of science appears to the pupil to be its utilitarian value, immediate or possible. This would be doing injustice to a great field of human endeavor. The high school pupil can hardly enter into an appreciation of this aspect of science, any more than he can enter into any real appreciation of literature, but he should be made aware of its existence by being assured that the practical is simply one great service of science to human welfare; that it is not its whole significance. This calls for no change in the daily task. It is rather an atmosphere in which the daily task is done.

A summary of the discussion thus far may be stated as follows:

The practical should be introduced into high school botany because the service of mankind is one great mission of science; because as many citizens as possible must realize this mission and thus enable it to develop to its maximum; and because the stimulus of interest is secured through contact with experience.

The dangers that must be avoided, in order that we may not defeat our purpose in making the practical a part of education, are such over-emphasis of

the practical that the knowledge upon which it is based is lost sight of, resulting in training apprentices rather than students; the elimination of all phases of the subject that are not obviously useful; and the failure to develop some appreciation of the great general mission of science in extending the boundaries of human knowledge.

III. *The adjustment.*

Having stated the principles involved, how may they be applied to the high school curriculum?

In the first place, so fundamental a subject should not be left to chance elections, for it represents knowledge that should be in the possession of every intelligent citizen. Its relation to human welfare is so great that it should be developed as rapidly as possible, and it is the interest of a large body of citizens that increases opportunity for development.

In the second place, for the high school student it should not be submerged in a group of sciences. This is to lose sight of it as a distinct field of human endeavor and service. Furthermore, such submergence makes it impossible to develop the necessary perspective of the plant kingdom as a whole, with its own position and function in the world of nature. To lack such a perspective is to limit the horizon of education.

In the third place, it is obvious that knowledge must precede its application. The fundamentals of botany must precede their application if it is our purpose to make students with ideas rather than merely apprentices who can only follow a prescribed program. For this reason a unit of botany should come comparatively early in the high school course, that there may be opportunity for its application later.

In the fourth place, I wish to emphasize the fact that the inheritance from college schedules of long laboratory periods should be disregarded, not only as inconvenient, but probably as not desirable. Any argument from difficulties of schedule should vanish. It is not the length of the period that counts so much as the use made of the period.

These suggestions seem to me not only to be feasible, but also to put a fundamental subject in its rightful position in high school education.

4. CLASSICS SECTION

The section was called to order by the chairman, Professor H. J. Barton. The election of a member of the executive committee of the section was next in order. For this position Miss Helen A. Baldwin of the Southern Illinois Normal School was nominated and elected. The executive committee of the section therefore consists of the following members: Miss Mima A. Maxey, Illinois State Normal School, Normal, Ills., chairman; Miss Julia F. Evans, Proviso Township High School, secretary, and Miss Helen A. Baldwin, Southern Illinois Normal School, Carbondale.

The first paper of the morning was a report of the committee on curriculum reconstruction; this was presented by Miss Baldwin. The report emphasized the pressing need of three investigations:—first, the determination of objective in Latin teaching, the determination of culture, discipline and practical use; second, vocabulary benefit, word lists, derivations; third, Latin prose, the peak of maximum benefit. She urged that three committees be appointed whose term of service should continue for a number of years and whose duty should be to

arrive at conclusions and present them to the section, making each year reports of progress. The section adopted the suggestions of Miss Baldwin and directed the executive committee to appoint such committees.

Report of the Committee on Curriculum Reconstruction

Helen A. Baldwin, Carbondale

The present move of the University of Illinois to study the making and possible remaking of curricula is a natural result of the present disposition to start afresh after the world war, to retain of the old civilization only that which has proved its value and to use in laying the foundation of the new social order the wisdom of selection, organization, and direction which has been lacking in the traditional, somewhat haphazard ways of the old.

The desirability of recasting our school work in Latin is not now under discussion. Perhaps indeed such recasting is desirable or necessary, perhaps we are well enough as we are; if so that should be proven. The hypothesis wherefrom we start must be that at least our grounds for present procedure are wrong because we do as we do for no better reason than that we were taught so—that it is tradition. Or the bolder minded of us have indeed devised new methods, struck new paths, but why? Because we *think* some method is good, because we *hope* to reach results not now attained. In other words opinion is our only guide and each one's opinion is to him as good as another's.

Now it is urged that curriculum making be undertaken as a science, that it be based like other sciences on known facts and principles, on tests and observations, on admitted laws and deductions. In our own department this is somewhat of an innovation because our subject is particularly a traditional one—indeed our detractors sneer that we have no better reason than tradition for teaching Latin at all! Certainly if we are to make good with our life work we must have a better reason both for our subject and for our methods. Curriculum making as a science is worked out by another department; ours is the duty to appropriate their conclusions and apply them to our own subject matter. It must be borne constantly in mind in our study that we are concerned not at all with method but solely with the mass of subject matter to be presented. The initial question whether Latin is worth while at all, we have passed beyond; it has already been sufficiently fought over during the last few years and apparently decided in our favor for statistics show that a larger percentage of pupils is now taking at least two years of Latin than at any previous time since the elective system laid its axe at the roots of all traditional education.

The technique of curriculum-making demands that we determine first the aim of the study, second the subject matter that will best fulfill this aim, third the order of presentation which best fits it for mastery. On each of these points conclusions may vary from time to time as constant experiments throw fresh light; and may the time not return when we see no room for experiments, no need of fresh light! If the idea of suiting means to ends becomes well implanted in our minds there will be no need for Latin to bear reproach as “standardized teaching,” “a traditional subject.”

It is encouraging to note that many experiments have already been made in regard to our subject matter, perhaps somewhat at random, striking our three points at various angles. It would be important to collect and classify all these, or as many as possible and very many more must be made. No scientific conclusions can be drawn nor can logical argument be held without extensive data of known facts, processes and results. These it is our present task to secure.

The great difficulty in this department is the almost impossibility of isolating the phenomenon as any scientific observer seeks to do in studying its real nature. This difficulty appears at all stages and phases of the inquiry. Repeated

comparisons have been made in schools between the Latin group of students and the non-Latin group, resulting always favorably to the former; yet the antagonist can always point out that other influences are at work, that the Latin students are the pick of the flock, that perhaps the result was not at all an effect of Latin. The only way of meeting this objection is by the collective force of great numbers of such experiments, converging from different angles.

Isolated examples of various interesting studies have been published which it should surely be within the range of some one to collect and collate. Probably this is the most immediate need before us now: that someone assume the duty of editor to the many published reports of late years and thereby show precisely what is proved and with precisely how much weight. Not only are we as a body failing to gain systematic advantage from these valuable tests but there is danger that work of great and patient laboriousness may be completely lost to us. It must be emphasized that the many tests and researches now suggested will in the end be useless without some central editor to retain and classify evidence reported. In short, if we are going about this matter in a scientific spirit we must be business-like enough to keep what we get; and classical teachers must work as a body.

The chief function of your present committee is to suggest and instigate problems for further study, and it must be repeated that in our constant difficulty of isolating the phenomenon no one study can furnish a complete answer to any question. Cumulative evidence is required and the desideratum is a great body of teachers and other associates of the classics all experimenting, testing, collecting and submitting evidence to some central clearing house which might in the course of time reach proven conclusions upon most points. And to suggest the essential need of scientific evidence, how else except by opinion—and yours is as good as mine—can we argue such modern innovations as vocational Latin, the direct method, plays and other programs, and even such apparently matter-of-course items as prose composition, sight translations, and “ponies?” To be sure anyone who advocates the innovation declares it to work successfully in his own hands, but the experiments have not been sufficiently extensive, many-sided and continuous to convince the sceptical. I submit that the lapse of time must furnish a most important commentary on many of these questions. We know how the old-fashioned Latin drill worked by the action in history of its products; do you know how your present highly interested class in vocational Latin is going to function on the broad stage of life with all humanity for its fellow actors? And dare you assert that your results are superior to those of the older system until you know these results in their life-length and life-breadth? Admittedly this envisages a generation as the briefest reaction counting as proof, but even so—the methods and ideas you offer to supplant have generations at their back.

So then let us approach our task without impatience, the scholar's task of gathering, working, sifting, weighing, with meantime pragmatism for our temporary ruler, as indeed it has been in the past.

In curriculum-making, then, the first thing to determine is the objective—what really are we trying to do as teachers of Latin—not from day to day and lesson by lesson, but what is our ultimate aim which must justify our existence and our work? Do Latin teachers as a whole give much thought to this point? Would it not greatly clarify discussions on the value of Latin as a whole and on the desirability of innovations such as were mentioned above if every teacher in the whole profession knew exactly why Latin is taught, what is expected to be gained by it, how it may supposably affect the development of the student? And while these objectives remain matters of opinion is it not inevitable that emphasis shall shift, that subject matter shall vary, that dissatisfaction with methods shall be widespread? How then determine these aims? Opinion seems the only recourse but not the opinion of a few, not yours nor mine nor even that of the great leaders of our profession, but the cumulative opinion of as many as can be approached and surely the opinion only of those who have met the world with

sufficient reality to test the worth of their equipment. We teachers are not perhaps best qualified to pronounce on this question in its full development.

Next the study of curriculum-making bids us break up our objective into units of workable size. Suppose that we determine that a prime aim of the study of the classics is culture. How then does the study afford culture and how shall we squeeze culture from it? One man says that the classics stimulate and enlarge thought, another that they are necessary to a comprehension of modern history; another that they contribute to the enjoyment of literature. All very well and very true but what then? Other objectives are urged simultaneously; are they incompatible? If we determine what material and method will best conduce to these ends of culture can that same Latin be used for the other purposes suggested? Some of us think it can; some think it only a question of emphasis; some that culture should wait to one side for the aristocrat in our democracy and that the broad path for the many should lead only to the plain and practical. Perhaps it is a matter for experiment and experience. If it can be proven that all suggested objectives can be gathered into say three main headings and that these three aims can be secured by one and the same piece of work surely we shall have taken vast strides in our curriculum-making. But this I offer only as an hypothesis; it can not be taken as proven without many data, much evidence of a kind not now at hand.

My own contribution to this needed evidence is a compilation of opinion supported on the part of the authors only by real or fancied experience in lives which are lived on a scale big enough to count. This datum is therefore open to all the objections which confront mere opinion, but at least the opinions are numerous, and I offer them for what they are worth. On June 2, 1917, Princeton University held a conference to discuss the value of the classics, the aim being to secure a vote on the retention of classics in the schools and colleges. Of course that is not now our question, but the mass of spoken and written evidence there adduced and since published in a good sized volume affords interesting material for study. Nearly all the men here testifying have stated reasons for the benefit they have derived from or perceived in the classics and these reasons I have collected and tabulated. Surely the cumulative weight of the opinion of these many important men in many walks of life affords some measure of the benefit we may ourselves hope to impart to our pupils and suggests the desirable emphasis in our objective.

The complete table is given in another place; I will here sum up the main points. Opinions are given of two hundred twenty-one men, classified under sixteen groups, though some groups include two or more related sciences. Educators form the most numerous group, professors of literature the second; though the ideas of business men, engineers and machinists are perhaps especially interesting as being furthest removed from one's first thought of the scope of classic influence. The reasons given by these men for the importance of the classics are classified under twenty-eight headings but these twenty-eight are susceptible of reduction under three main groups: first, for the practical use in language knowledge, native or foreign; second, for the mental processes—discipline properly so-called; third, content, covering the two subheads of information and culture. And in order of advocacy these groups are the same: for the first one hundred forty "votes," for the second one hundred eighty-one, for the third two hundred. And almost all these men emphasize the things of the spirit, the lessons of past civilization, and example of great men and great words, the continuity of thought, the history of democracy. They emphasize also the necessity of classical education in preparation for leadership but this point concerns us now in reference only to one question which will be mentioned later. Now there is nothing startling about these figures. Almost all of us would probably have thought out the same aims and in the same order. Also it is admitted that if tests were taken from a different class of citizens—engineers in locomotive cabs, say, rather than the heads of great enterprises—a different result and a different emphasis would probably be obtained. Still the numbers and standing

of these witnesses make their testimony important and those of us who believe that democracy in education means the best for all will not place less value on the opinion of these men because they are successful workers. The desirable thing now is that more evidence from different angles be gathered until we can at last reach a scientific conclusion beyond the reach of argument. For consider how practical is this decision in its application to matters now at issue. Is Latin a subject for everyone? The testimony of successful men that classic training is valuable in gaining and holding leadership is pertinent here. How much Latin should be urged on pupils? Consider the emphasis placed on culture, on understanding of civilization, on the background of literature and the continuity of thought;—is two years enough to secure this? And what Latin authors make the best choice for our secondary school? The study of Caesar, e. g. is well nigh universal for the second year; the effect on the pupil of this author has never, I think, been examined, though not a few teachers have established a repugnance to him. Here lies an immediate necessity for the determination of objective. If we teach for vocabulary, any Latin will do; if we teach for formal grammar any correct Latin, even modern, will do; if we teach for the artistry of style many writers of many periods will do; if we teach for the inspiration of contact with great minds certainly not "any Latin" will do but only that high and noble literature produced by those few and lofty minds which at the turning point of Roman history voiced the spirit of that mighty people and shaped forth their ideals. And I ask, if even in the second year we wish to place before our pupils at once correct Latin, a model of style, the inspiration of a great genius and the shaping influence of ancient history upon modern, can Eutropius or Cornelius Nepos or any other substitute serve our end as can Julius Caesar—provided only that the teacher know enough of this man to body forth his many-sided character and to realize that the conquest of Gaul is not a mere tale of battle?

Question marks a plenty are all that is asked of your committee this year. Several important matters for inquiry have already been stated; here are more. The large objectives already stated must be broken up and analyzed for convenient study and determination. Granting that Latin is important for vocabulary, how shall we go about securing this benefit? Here many experiments have been made and are now under way but the results of all these need collating. Such a concrete point of teaching as this surely admits of standardization and the sooner this is effected the better. So too the effect of Latin study on the comprehension of English grammar and sentence structure is under test and observation; we want reports and many of them. The usefulness of Latin as mental discipline is probably best shown by the comparison before referred to between groups of Latin and non-Latin students; the more of these the better for the convincing of the sceptical. Also observation in these tests ought to show in what ways the powers of the Latin group are increased and how we may increase these benefits.

The matter of quantity vs. intensity is another most important point. Some consider it desirable for secondary schools to attempt to cover less reading than the college entrance requirements suggest, in order to do the work more thoroughly. On the other hand it is urged by not a few that the pupil be taught to read rapidly, as in modern languages, and to cover much ground. This is surely a question of objective and an important one, which needs settling.

Perhaps here belongs the study of the effects of prose composition: just what does this exercise do for the average pupil and how far must the work go? Opinions differ here, I am sure, but the question is susceptible of proof. Then moving on to culture, a large word of many sides. What sides can we emphasize best and by use of what authors? What aspects of Roman policy need we stress to help the understanding of civilization in Europe and America? If the contact with great minds is of prime importance what about the possibility of reading more of these great authors in English translation after a pre-determined amount of the original has been absorbed at the slow pace of the

average pupil? And since one argument for a prolonged pursuit of the classics is that English literature can not be understood without them, here is a concrete problem: let someone read an adequate amount of English and American literature, properly distributed by dates and schools, and note just how much Greek and Latin knowledge is used, what authors, and how this background is disposed.

Perhaps this is enough of questions for the moment. If we had real answers to all these problems we should be in a very different position in regard to curriculum adjustment. Obviously time must be granted in full measure; we can not afford to be in a hurry. The gathering of scientific data for a department which has so long depended on tradition and opinion is no task of a moment. I repeat, the difficulty in our case of isolating the phenomenon requires accumulation of evidence before it can at all be regarded as proof. At present then let us try to attain the open attitude of mind essential for the scientific investigator, let us encourage in every way these tests and experiments and let us establish a central board to which conclusions may be referred. And until we are agreed on the objective of the whole field of classic study let us at least try each one for definiteness of aim in his own work.

So much for general discussion of our field; so much may stand as our present report. But it is desirable to indicate and instigate immediate action on at least some lines, that time may not be lost, as it must not be if this matter is as important as we think.

First, then, objective. I persistently find this an essential foundation for any argument as to any innovation or practice in Latin teaching. If we could agree that our objectives are, first, culture, second, mental training, third, practical use, and with emphasis in the order named, and if we could further agree that the same Latin with intelligent handling can reach all of these results, how little would be left for dispute as to inclusion and exclusion! But if we are not agreed, it is a point to settle and I can think of no means to suggest but opinion—the opinions surely of fair minded men and women who have had classic training and can evaluate its results. Let someone undertake this work; let one serve as a clearing house for figures sent in by many investigators; let us question our former students; let us conduct a census by trades and occupations;—in *some* way let us settle this matter so that it will stay settled and that we and the world may know what we are aiming at when we urge the study of the classics. It will take time, of course: time even for our own state, more time for the whole country, but at least let us begin.

Then for smaller tasks which may occupy our immediate attention. Granting the value of Latin for vocabulary enrichment, should not the matter of word lists and drill be systematized? Pupils should not be dependent on their luck in encountering original and progressive teachers; work like this could easily be put forth in such shape that every class in the state could profit by it. And perhaps the same board entrusted with this task might also assist the overworked teacher, hampered by short teaching periods, in finding time for this increment amid the welter of inflections, rules and idioms which *must* be learned and from which the modern child so easily revolts.

One other point I urge for immediate attention. It was mentioned above but perhaps no one took me seriously. I do fully believe it both possible and desirable to determine the exact amount of prose composition that benefits the average pupil, and then to stop this work when that peak of maximum benefit is reached. Of course we all know the bearing that composition work is expected to have on the student's knowledge of a language, but harking back to my three objectives: culture, discipline, practical use: I question whether the first and third are greatly subserved by this form of study, and I also question whether *beyond a certain point* the second aim is greatly furthered in the average human boy or girl. The suggestion may be heretical; for the moment I accept the opprobrium and entreat that the question be put to the test. Large schools boasting several sections of each year could best furnish the *corpora vilia* and comparisons made by one teacher teaching both with and without would

be most convincing. My guess places the possible stopping point about the middle of the third year, or in classes openly purposing to stop Latin with two years, in the middle of the second.

As chairman of your committee, then, I suggest that these three studies be taken up at once, that suitable persons be appointed to head each investigation, that meantime such scattered studies be encouraged as may interest any theorizer and that some librarian endeavor to track all such isolated studies as have been published in the country. Further reports from year to year should be looked for until a substantial body of scientific data is at hand on which to base intelligent reconstruction of our curriculum.

The crowded program prevented long discussion of the paper, but it aroused much interest as was evident from the appointment of the committees above noted.

The next paper was on the correlation of Latin and English and was presented by Professor Wren Jones Grinstead, Kentucky Normal School, Richmond, Ky. Professor Grinstead spoke as follows:—

Correlation of Latin and English **Wren Jones Grinstead, Richmond, Ky.**

Before a body of modern high school teachers, it should not be necessary to argue either a practical or a philosophical ground for the correlation of two subjects whose close kinship is universally conceded. If the same expenditure of teaching energy can be made by concerted action to produce greater or more thoro results, or if as good results can by concerted action be secured with less effort, we are obviously bound in the interests of economy to give careful consideration to such concerted action. The fashion of the times too—which is often our surest motive for the translation of theory into practice—is all in favor of the joining of forces. We have ceased to believe that the teacher's highest merit is to "stick to the book." We have accepted—at least in word—the proposition that education is functional, and that function is organic; that there is no such thing as bulkhead learning; that for the youth at least, each subject studied should contribute to a set of attitudes and habits which function when he closes his book and steps out of the classroom. The frequent charge against Latin, that it is of no "practical" value, is a serious one, in that it demands close self-examination on the part of Latin teachers. What do we mean by *practical*? If we grant that it means *functional*, and not merely commercial, we next ask, In what way does Latin, properly understood and taught to the best advantage, actually function in the life of the youth from the day he gets his high school diploma? Is this functioning achieved with our present aim and material and method in Latin? And especially, for our present purpose, can it be better achieved by a united aim and effort on the part of teachers of Latin and English? If it can, then our prevailing functional philosophy of education demands concerted effort.

The common-sense ground for an affirmative answer I take to be historical. We have too much assumed that Latin and English are *languages*. For school purposes they are much more; they are subjects of study in which linguistic activity indeed predominates, but in which to a marked extent there enter also the elements of history, of sociology, of psychology, of esthetics, and of the exercise of a trained and modern scientific attitude toward man and his finest achievements. English, like Latin, is the study of the sublimated literary consciousness of a great people; and the range of common content and aim in the two subjects depends largely upon the closeness of the historical contact of those peoples. This contact has been mostly mediated by language, tho it has extended far beyond language. There is a fundamental kinship of the two languages, as

branches of the Indo-European. It is difficult to say how far the receptivity of the English to Latin culture was due to this linguistic kinship, and how far it sprang from the fact that at the time when we came into contact with the Latin our whole social organization was just rising above that tribal stage which was once common to all the Indo-European peoples, in which the Latin culture had had its roots, and which at the nascence of English history was still deeply imbedded in the language, literature and institutions of Rome. An evidence of this is seen by contrast in the great gulf which we still find fixed, in spite of religious influence, between ourselves and the ancient Semitic culture. The tongue of Rome to the pagan Englishman was alien only to the ear; when it spoke to the heart, he answered as he never would have answered Phœnician or Japanese.

But the chief source of kinship between Latin and English lies in the contact of nascent English culture for many centuries with the Roman, in an age when *culture* meant *Roman* culture. The popular notion of the fall of Rome is only half true. The early English sea-rovers knew Rome as the mistress of the world. The generation whose youth saw Rome withdraw from Britain was also witness in its riper years to the beginnings of the English occupation. The Rome of St. Augustine was the Rome of Honorius, and Honorius was the direct heir of all the emperors, with no notion of a break in the tradition of Roman ideals in the three centuries since they were formulated in the unforgettable lines,

Tu regere imperio populos, Romane, memento;
Hæ tibi erunt artes: pacisque imponere morem,
Parcere subiectis, et debellare superbos.

With all allowance for the paralysis of the arm of empire in the fifth century, it was the culture of the Latin world, so far as it was culture at all, that survived the disgraceful reign of Honorius; and it was much less than two centuries before the unbroken tradition of this culture was carried back by the church into the England of our ancestors. The very alphabet that they learned to use was mainly that of Rome. The schools that they founded were so truly Roman schools that when the Frankish Charles, another two centuries later, wished to restore the learning of Rome, he sent to England for teachers.

I need not remind you of the history of the following ages to show how this tradition continued, stumbling and weak at times, but still unbroken; and how the English language, as a medium of culture, of literature and religion and government, grew up under the constant presence and fostering care of men who thought in Latin the beliefs and ideals and themes that had first been cast in that language in the days of Roman greatness. It is no accident that the generations which produced Gothic architecture, the English parliament, and the universities were also the generations which held Roman Vergil, and Greek Aristotle in Latin dress, in equal reverence with St. Augustine and the Latin version of St. Paul. If we put in contrast to this the broken traditions of Greek culture in the west, we shall see why it is that Greek, for all its superior wealth and flexibility, has never taken real root in the education of the English-speaking masses, but has been the property of the intellectual elect; while Latin—not simply Latin words, but the mass of Latin ideas and ideals—is now a part of the mind of every one, whether he knows it or not. If any one wishes to test this, let him attempt, as some of us have done, to cut from a magazine every advertisement whose dominant word, illustration or idea is perceptibly Latin, or mediated to the modern world by Latin. He will soon find his pile of clippings embarrassingly large, while there will not be much left of his magazine.

It would seem then that Latin and English, not simply as languages, but as two fields of study, are so organically blended by the processes of history that we cannot separate them if we would; and the interests of economy as well as of a consistent philosophy of education demand that we recognize that blend in our teaching. The question then remains, with what aim, by

what devices, to what extent, shall we recognize this community of aim and subject-matter in our classroom work?

One of the agreed aims of both subjects is to lead the pupil to use the English language with an awareness of its structure and possibilities as an instrument for the gathering and expression of thought. It would be impossible for me in this brief space to discuss exhaustively all the aspects of this aim, so I shall confine myself to the one question of *the feeling for word structure*. In preparing to present this question, a try-out was made of a high school class in English, with a view to ascertaining how far the problems confronting the English pupil could be legitimately classed as approachable from the point of view of the feeling for word structure.

A tenth grade class in English was beginning the study of *As You Like It*. Every pupil in the class of 11 was also studying Latin, and most of them were in Caesar. They were directed to read the play over rapidly first, for the purpose of getting the plot. Naturally they would encounter many unfamiliar words. At first there was no suggestion that they utilize their knowledge of Latin in helping them to the meaning of these words; but each pupil was asked to hand in a list of the words whose meaning he did not know. These lists were collated, and the words were classified according to the type of problem which they seemed to present. This classification, tho roughly made, and not checked up by further experimental analysis, presents certain illuminating features.

The first significant group is a list of 5 very common words which were not recognized: *cater* (reported by 2 pupils), *cipher* (1 pupil), *ewe* (2 pupils, in a sheep-raising community!), *miser* (1), *wainscot* (1). This reveals what was independently known: that there were two pupils in the class with a markedly limited vocabulary, and little habit of tying up reading material with every-day life. For this reason we shall get a roughly significant classification by setting apart those words reported as unrecognized by one or two pupils only; whether by these two particular pupils or not.

The first main class of words consists of those in which the habit of noting word structure would probably not have been serviceable in grasping the meaning. This consists of certain sub-classes:

Nonsense words and non-significant proper names: 4 words (3 pupils evidently thought that *nonino* ought to mean something.)

Non-classical allusions: 1 word (*Gargantua*).

Rare, obsolescent and obsolete words: 23; of which 15 were reported by only 1 or 2 pupils. Included in this list are 8 from unfamiliar rootwords, but made according to familiar English methods of word-formation.

Words whose meaning depends upon obsolete or foreign ideas and customs (e. g., *liege*): 11 words; 7 by 1 or 2 pupils.

A second main class of words are such as might arise in classical study, but in which there is little probability of direct assistance by the ordinary processes of word-formation. The sub-classes are:

Literary words of classical origin, but far removed in meaning from their rootwords: 26 words; 13 by 1 or 2 pupils.

Words from unfamiliar classical rootwords: 11.

Classical allusions: 3 words: *thrasonical* 5, *phoenix* 1, *Ganymede* 4.

The third main class of words are those whose meaning should have been clear in their context, either from their classical etymology, or from the habit of attending to word-formation as applied to native words. The sub-classes are:

Book words of classical origin (including 10 of the 11 from unfamiliar classical rootwords, mentioned above): 72 words; 44 by 1 or 2 pupils.

Words (classical or otherwise) which are recognizable with a slight change of form (e. g., *parlous*, *priethee*): 15 words; 7 by 1 or 2 pupils.

Latin words thru French: 4 words: *purlieus* (4), *sans* (2), *lieu*, *venison* (1 each).

Meaning clear in context from non-Latin etymology (e. g., *berhymed*): 20 words; 12 by 1 or 2 pupils.

On questioning, most of the class made out readily the meaning of words which they had previously reported as unrecognized; as *purgation*, *gentility*, *irrevocable*. It was noticeable also that the number of words reported in the later acts of the play was considerably less than in the earlier. This confirms the belief that the difficulties could have been largely reduced by devoting time specifically to the formation of the habit of watching for new words, and of seeking their meaning, not as arbitrary or inscrutable things, not as unanalyzable wholes, but as products of the fairly simple habits of word-formation to which we and our ancestors have clung since long before we parted company with the Mediterranean peoples. I yearn sometimes for that stage of vigorous greenness of language growth which prompted a youth I once knew in the "Pennyr'yal" of Kentucky to say: "Well, su', that tha' little kid o' Joe Jolly's is the *coffee-drinkin'est* kid I eve' see!"

The practical question arises, Where in the Latin course is it most profitable to strive for the word-formation habit? A hint to this effect may be obtained from a further analysis of the category of Latin words (including the few French) which might have been recognized from their formation. These are:

Words formed from familiar roots with familiar prefixes and suffixes: 17 words; 13 by 1 or 2 pupils.

Formed from words classed by Lodge as Caesarean: 29 words; 14 by 1 or 2 pupils.

Formed from Ciceronian words: 14 words; 10 by 1 or 2 pupils.

Formed from Vergilian words: 4 words; 3 by 1 or 2 pupils.

Whatever may be the reason for the small number of Vergilian words, it appears probable that even without special attention to word-formation, first and second year Latin contributed very materially to their grasp of English. This is in harmony with a recent study by A. Alta Fretts, as reported in the *Classical Weekly* for November 10. In readiness to interpret new words, pupils arranged as follows:

No Latin	39%
One year of Latin	58%
Two years of Latin.....	70%
Three years of Latin.....	72%

In experiments in the University of Wisconsin in 1916, I obtained closely parallel results, with the details of which I need not trouble you. There was one additional fact however that seems to me of the highest importance. Pupils who had had only one year of Latin, taught with the special aim of developing a feeling for word-structure, scored slightly better even than pupils with *four* years of high school Latin of the traditional type, tho the latter averaged a year and a half their superior in academic advancement, and presumably more than that in maturity. We cannot avoid the conclusion that Latin plays into the hand of the English teacher, and that the strategic place to concentrate this play is in the first two years of high school Latin.

I pass over the question of methods. The available equipment, tho increasing every day, is far from standard as yet, and each teacher should be left largely to his own initiative until someone can do for the Latin vocabulary as raw material for English what Lodge has done for it as raw material for Latin. I pass over also, as too extended for this discussion, the problem of the digestion of the common stock of ideas of English and Latin; the grasping of the immense common material of art and literature; and the consequent development of the esthetic and moral ideals of which literature is the matrix. I wish to speak briefly of what seems to me the chief contribution that English can make to Latin, as an offset to the values we have just been discussing.

The need of this contribution arises from the necessarily minute detail with which the Latin student must analyze his material. Every Latin teacher

knows how even his next best pupils, in their conscientious eagerness to render accurately every ablative and subjunctive, are prone to lose entirely the thread of the discourse, and to foist the most impossible nonsense upon the defenseless names of Caesar or Vergil. In English the case is just opposite. Dealing with the vernacular, where absurdity is easily discernible, the teacher can move with long strides, and can develop a sense of perspective, of proportion, of the relation of the parts of a work to the whole. If this could be brought to bear upon Latin, the latter would undoubtedly be the gainer.

Last year in our high school we made a virtue of the influenza necessity, and tried an experiment in this coordination. The teacher of the Junior-Senior English wished to give the pupils practice in the writing of long themes summarizing the results of topical reading in the library; and directed them to go to their teachers in other subjects for their themes. Several of these pupils were in my Cicero class. As the influenza had so shortened our school year as to threaten to cut us out of one oration, I suggested that they take each a topic that would require an amount of Latin reading approximately equal to one oration of twelve to fifteen chapters. We then omitted Catiline II and IV, made up the equivalent of one of them from the letters, and assigned the following:

Cicero's Family Life. From the Letters.

Cicero's Friends. From the Letters.

Constitutionality of the Execution of the Fellow Conspirators of Catiline. From Catiline IV.

History of the Catilinarian Conspiracy. From Sallust's Catiline.

Milo and Clodius. From the Oration for Milo.

Roman Provincial Misgovernment. From the Verrine Orations.

Cicero's Public Career. From selected Orations and Letters.

The Various Styles of Cicero. From the Letters, selected Orations, and De Senectute.

The themes were reported orally in the Cicero class, accompanied by translations of particularly interesting passages. The English teacher graded the written themes for unity and correctness of English, while the Latin teacher was responsible for their historical accuracy and fidelity to the Latin sources. The success of the plan, while not unqualified, was sufficiently great to warrant its continuance and extension: and there is no doubt whatever that it helped give the pupil a feeling for the wholeness and commonsense nature of Latin documents that went far to counteract the rule-of-thumb or jig-saw-puzzle attitude toward Latin.

If English needs Latin—Latin needs English.

At the conclusion of the report, many questions were asked Professor Grinstead and general discussion followed. It was evident that the subject was one of vital interest to many members of the section.

The third paper of the session was presented by Miss Stella W. Aten, Senn High School, Chicago, on the subject of Latin Prose. This same subject was discussed at the Conference of 1918 and now as then interest was keen to ascertain what should be done and what left undone. Miss Aten's paper follows.

Report of Committee on Latin Prose Stella Aten, Chicago

A famous maxim of diplomacy in medieval times was "Divide et impera". Another arithmetical process might be substituted for "divide" and thus a text be secured for this report. "Subtrahe et impera"—subtract, that is, diminish

our requirements by omitting non-essentials, and hold sway over the hearts and minds of our students.

The need for simplification has long been felt. Our difficulties are an old, familiar story. The short recitation periods, the numerous holidays and interruptions, together with the manifold demands upon the teacher make it impossible to hold to the ideal of a generation ago. In the high school of to-day, the average student carries so many subjects and is urged to take part in so many activities, such as athletics, dramatics, etc., not to mention social distractions and "the movies", that he does not, perhaps cannot, find time for very serious study. Our problem is to teach fewer things better. For we cannot expect children to continue a subject unless they are well taught and feel that they are making real progress. If Latin is to keep its place in the high-school curriculum, as it will, we shall have to make modifications so that the student will not feel so keenly the greater difficulty of Latin as compared with his other subjects. You remember that years ago we were warned of our mistakes in no uncertain tones by the late Prof. Johnston of the University of Indiana, in his article "Sanity in First Year Latin" published in the *Classical Journal*. He pointed out the pitiful number of failures all along the line, and felt that teachers wasted much time over non-essentials, such as niceties of pronunciation, while the inflections, the most important part of the work, were neglected and not mastered. He also felt that we were syntax mad.

The Latin teachers of Chicago high schools have felt for years the need of a definite understanding as to what are the essentials in each year's work, and thru a committee of the Latin section began to make an outline. But the work has not been completed—"pendent opera interrupta"—due to the long discussions and difficulty in agreeing and also, perhaps, to the fact that, with our present text books, it seems almost impossible to follow any scheme for simplification. The first draft, now being revised, follows closely Miss Sabin's outline.

While we need, doubtless, to simplify all along the line, it is especially necessary to arrive at some conclusions in regard to prose work. Writing Latin seems to the average boy or girl the harder part of his task. We usually feel, if we do not hear, the relief of the class when we turn from prose to translation. At one time teachers could aspire to have their students write real Latin prose—even Latin verse. But we may as well acknowledge that that time is past in the secondary schools. The colleges will have to do that work for those who continue the subject. I realize that the college entrance examinations have been the great hindrance to simplification in the past. But we know that a movement is now on foot which will lead to concessions on the part of the colleges and more effective co-operation between the secondary school and institutions of higher rank.

A very large majority of our pupils do not continue beyond the second year. We can, then, expect to teach them in two years only the fundamentals, only the common and regular grammatical principles—nothing uncommon or exceptional.

To be specific—the vocative is used just once in the first four books of Caesar—you remember in the passage describing the landing in Britain—commilitones—a form not different from a nominative. Does it not seem futile to worry a student in the first and second years with the peculiar vocative form? It will be argued that the vocative is needed in conversations to lend naturalness and interest. But there are plenty of vocative forms that can be used which do not differ from the nominative and which would not trouble any pupil because English usage is the same. The locative occurs 5 times in Caesar I-IV and all occurrences are the same form, *domi*. Why, then, teach the locative until the third year?

Noli with the infinitive for prohibition is found only once in high school Latin—the active periphrastic only four times in Caesar. Let us concentrate on the regular and the most frequent constructions.

It is this "irreducible minimum" which Prof. Bonner, of the University of Chicago, contended for in his paper given not long ago at the meeting of the Classical Association of the Middle West and South. He believes that the revision of our text books is necessary from the beginning—for these are still following the traditional lines. Vocabulary should be limited to the minimum necessary to illustrate grammatical points. He also contends that Latin syntax has comparatively few fundamental and essential principles. If these are learned, other minor details will come with experience.

Now this does not mean that points of syntax occurring in the reading should not be explained carefully. But let us try the experiment of simpler prose exercises. It is unnecessary to state that prose must be required to instill accuracy, to counteract bad habits acquired in translating, to fix forms and vocabulary. If syntax and vocabulary are limited, there will be more time for drill on forms, in which, I am sure we all agree, the average student is lamentably weak.

I have already shown examples of waste of time over rare constructions, such as the vocative and locative cases, in the early part of our high-school work. To quote Byrne "The Syntax of High School Latin", "The complementary infinitive is a hundred times as frequent as the supine in -um, relative clauses with the indicative two hundred times as frequent as relative clauses of concession, the infinitive in indirect discourse a hundred times as frequent as the subjunctive after verbs of fearing, the indicative in independent clauses between four and five hundred times as frequent as the potential subjunctive in independent clauses, and the ablative of means two hundred times as frequent as the ablative of price. It is evident that the unconscious assumption that all the constructions listed in a grammar are about equally deserving of study, the assumption on which much of our teaching has actually been based, has no support whatever in the real facts of the situation."

Time is also wasted over obvious uses, obvious because exactly like English. Many uses explain themselves. I do not think a child was ever troubled by an appositional Genitive, a cognate accusative or by a clause introduced by *postquam*, *ubi*, or *quamquam*. Assuming that the underlying relations of the cases are taught in the first year, can we not dismiss the cases quite summarily in our later prose work?

Scientific simplification is possible. With such word lists as those by Browne or Lodge, it is surely easy to pick out the most used words. And with the help of Byrne and his fifty collaborators, the selection of the fundamental syntactical principles ought to be quite simple.

Another source of waste is the bad pedagogy of our books. It might seem superfluous to suggest that the sentences illustrate the grammatical principles given for study. But recently in a lesson devoted to certain uses of the ablative including the Ablative of Agent, the first sentence required not an Ablative but a Dative of Agency. It is true that the pupils had been taught the use of the Dative with the Passive Periphrastic, but was it not disconcerting to have this construction when his attention had just been called to the other way of expressing agency? Again, is it not sufficient if a third year student is thoroughly familiar with the regular types of conditions? Why require that he worry over such an irregular sentence as this found in a well-known third year book—"If we had not driven him from the city, we should have had to watch day and night." For the same reason, conditional sentences in indirect discourse is a topic to be postponed to the fourth year or later.

If we eliminate rare constructions, we may reduce the number of forms to be mastered in the first and second years. If the Caesar student needs no vocatives nor imperatives (with one exception), cannot the learning of these forms be left to the third year?

Our modern language colleagues practice simplification—and consequently French and Spanish are to the pupil "so easy". I am told that those who use the Knowles-Favard Conversational Grammar teach three uses of the sub-

junctive by the end of the third half year and none of the uses of the conditional. In Spanish they do not teach the Subjunctive in the first year save for the Subjunctive used as an Imperative. I wonder if we could not well borrow at times from the modern language teacher also the method of teaching prose by the use of questions based on the text read. This seems easier to the child as he may have to think out no new forms at all or only a few in his answer. But the repetition would have value.

An outline of essentials in syntax for the second and third year was presented to this conference last fall by Miss Warner, in a most suggestive paper on "Prose". None, I think, was given for the first year. All will agree that reduction is most necessary in the first two years. In choosing which principles to emphasize, frequency of occurrence as indicated by Byrne has been the guide in the following outline. While it is felt that no two teachers would agree on all details, perhaps something may be gained if the matter is again brought before you for discussion. It is understood that in each year the principles taught the previous year are to be reviewed.

FIRST YEAR

Nominative.

1. Subject.
2. Predicate.

Genitive.

1. Possession.
2. Whole.

Dative.

1. Indirect object.
2. With special verbs.
3. With compounds.

Accusative.

1. Direct object.
2. Limit.
3. Subject of infinitive.
4. With prepositions.

Ablative.

1. Means.
2. Separation.
3. Agent.
4. Cause.
5. Manner.
6. Time.
7. Place.
8. Accompaniment.
9. Respect.
10. Absolute.
11. With prepositions.

Agreement of adjective.

Agreement of verb.

Agreement of relative pronoun.

Complementary infinitive.

Subjunctive of purpose.

Subjunctive of result.

Indirect statement.

Indirect question.

SECOND YEAR

Genitive.

1. Descriptive.

Dative.

1. Agent.
2. Possession.
3. Reference.
4. Purpose.

Accusative.

1. Adverbial.
2. Extent-duration.

Ablative.

1. With utor, etc.
2. Difference.
3. Descriptive.

Sequence of Tenses.

Relative purpose clause.

Substantive clauses—volitive—result.

Cum clauses of time, cause, concession.

THIRD YEAR

Vocative.

Genitive.

1. With adjectives.
2. Objective.

Dative with adjectives.

Locative.

Accusative.

1. Exclamation.
2. Two accusative (with verb of making, etc.).

Ablative.

1. Source.
2. Comparison.

Imperatives.

Subjunctive.

1. Volitive.
2. Deliberative.
3. Optative.

Conditions.

Relative clauses.

1. Description.
2. Result.
3. Cause.

Substantive quad clauses, substantive quin clauses.

Dum clauses.

Ne clauses after verbs of fearing.

Antequam, etc., clauses.

A comparison with the outline issued by Miss Sabin would make it clear that the outline just read is much simpler, as should be the case with an outline for prose teaching. It may be advisable to teach some principles of grammar in connection with the text, knowledge of which it would not be wise to demand of the pupil in composition.

It will be noticed that no mention is made of participles, supines, gerunds or periphrastics. If the forms of the participles and the gerund are thoroughly taught together with their simple English meanings in the first year, no new principles are involved. If we insisted on considering the periphrastic forms, not new, but the same participles added to the verb *sum*, even dispensing with the name periphrastic which sounds difficult and terrifying, these would not give trouble. Supines are too rare to be imitated by the student in his writing of Latin. Subordinate clauses not enumerated here should be taken up, if there is time after the essentials of the third year are mastered, or postponed to the fourth year.

For the fourth year two weeks, if possible, each semester should be given to the writing of connected prose. Many teachers experience great difficulty in finding time for any prose during the fourth year. One Chicago high school has solved the problem by offering a course in Advanced Composition two periods a week to meet the needs of those preparing for eastern colleges and those desiring more drill in the writing of Latin. In this last year we need not be afraid to take up any point which comes in the passage assigned, as our students are now a picked group who, in most cases, have elected fourth year Latin because they were really interested in the language and wished to know something of its literature.

So much for what *must* be done for the thorough grammatical training of our students. Let us see for a moment what *may* be done to kindle his interest in the writing of Latin. All young people enjoy seeing in print what they have written. In our school we have taken advantage of space given us in our monthly magazine. We have invited contributions of various kinds as: Latin versions of the popular songs "Over There", the school foot ball song, "There's a long, long trail a-winding", even "Beautiful Katy"; variations of Round in "Carmina Latina", Lincoln's Gettysburg Address, stories, jokes, proverbs, valentines, and nursery rhymes. Some of these may seem frivolous, but they are useful in club programs, and with all their imperfections are sure to awaken some interest in even the indifferent pupil. If you will promise not to be too critical, I shall be glad to show some of the things we have done along this line.

The last paper of the session was presented by Miss Grace Eldredge of the Joliet Township High School on the subject "The Ups and Downs of Supervised Study." The paper will well repay careful study. The superior advantages at the command of Latin teachers in this High School was an element that added interest. What can be done with supervised study under unusually favorable conditions? What can be done with it under conditions such as exist in our smaller high schools? This latter question was foremost in the minds of many present. Miss Eldredge spoke as follows:—

The Ups and Downs of Supervised Study **Grace Eldredge, Joliet**

One of the hardest things that a teacher is asked to do is to supervise the study of some subject. It is comparatively easy to hear pupils recite something which has been more or less thoroly prepared at home and to know that the responsibility of preparation does not rest with you. But when you

know that the recitation of the succeeding day will depend upon the way in which you have presented a topic and the ability you have displayed in seeing that it is properly studied, it is a far different matter. The disposition of any conscientious teacher will be to give far too much help to her beginning pupils, fearing that she is not fulfilling her obligations as a teacher of supervised work unless she does this. In a surprisingly short period the pupils will expect help at any time and all times and refuse to do anything that remotely resembles thinking, for themselves. This is the greatest danger encountered in conducting classes that have the supervised working period.

There are some teachers who go to the other extreme, who assign the lesson for the next day, sit down behind the desk and busy themselves in various ways while pupils of different grades of ability plod on as best they can. This is not in any sense supervised work even tho' the studying is done in the presence of the class teacher, but this method will do less real harm than that employed by the teacher who helps too much. I should like to warn the teachers who are new to supervised work that they must be exceedingly careful to refrain from answering questions the answers to which the pupils are abundantly able to think out for themselves, or with very little help from the teacher. It is so much easier to answer a question on form or construction than it is to take it step by step with the pupil until he sees the answer clearly, but this is exactly what you must do all the time or you will find yourself confronted with classes of alarmingly weak pupils. Those of us who have taught in schools where supervised work is given a big place have seen pupils whose utter lack of independence fills us with alarm, and we wonder if it can be that too much has been done for these pupils and this is the out-growth of supervised work. Then we see pupils whose progress is remarkable and we wonder if this is due to judicious supervision of work or natural aptitude on the part of a pupil. So when you are assigned to supervise the study of first year Latin remember that you have a tremendous task before you and that you will have to plan and think and think and plan until you are certain as anyone can be of himself that you are following the right method in your work.

It is exceedingly easy to make first year Latin interesting to most pupils and to me this is the most interesting year in Latin work, especially when you have the supervised period where you can work out some things for which we did not have time before. Perhaps for a week little studying of the Latin itself is done in my beginning Latin classes, for there are so many interesting things which should first be told the boys and girls. Of course they have been asked, "What you taking Latin for? It's no good", and many whose wise parents have insisted upon this foundation for a broad education have to be convinced that Latin is one of the most worth-while subjects in the High School curriculum. Always impress the thought of the great value of Latin upon the minds of the pupils who are beginning its study and you will find your work in that subject much easier. And please don't stand before your class and read the introductory pages of your first year Latin book and think now you have made a fine beginning, but get ready a little lecture in which you tell easily and clearly the many uses of Latin: its use in different studies, sciences and professions. Next tell the class some of the mythical stories about the founding of Rome and lead up to the historical fact of its beginning. By this time almost everyone in the class will be deeply interested and the old Romans will begin to seem like real people, and what they did, and ate and wore becomes of absorbing interest.

Now you are ready to begin the real study of the Latin language. The vowel sounds, consonants that differ in sound from the English; division of words into syllables; accentuation and then pronunciation of the words comes first of course. Here you can make splendid use of your supervised working period. (After various trials with both of the periods given to the Latin class to discover which was better for recitation and which for study, I settled definitely upon the first for recitation and the second for study. There are many

reasons for this which I haven't time to discuss, if you care to put this to trial you will quickly find many decided advantages in the above order.) In teaching the pronunciation of Latin I place many words upon the board, sometimes the same group of words for all the class and sometimes a group for every few pupils. These words are to be divided into syllables, accented and pronounced. Every pupil begins his work, I pass from one to another inspecting the work. If there are mistakes, as there always are, I do not correct them but check them with colored pencil as I pass along. If the pupil has not been able to correct the mistake by the time I return I question him until he sees where the mistake lies and corrects it himself. Sometimes you will have to review practically everything before he sees what the trouble is but that is the only way to give him help that is worth anything. Sometimes I send groups of pupils to the board, spell a number of words for them, have them write these, divide into syllables, etc., and correct each other's work. There are many interesting ways of carrying on this work which the teacher can think of herself. The one thing to remember is that she must keep constant watch of the class to see that the work is done and correctly done.

Now the class is ready to memorize some Latin words. But don't be in too great a hurry and give the pupils long lists of words at first or several pages of material just because it seems easy to you. Everything is new and strange to them and apparently very difficult and in order not to frighten them go slowly at first and you will notice much more rapid advancement later. After studying the assigned words for a reasonable length of time I allow each two persons to hear each other repeat the words using any method that appeals to them as long as they are not disorderly. They enjoy this and devise many good ways of hearing each other say the vocabulary. Later, when the vocabulary becomes more difficult, I let the pupils go to the board and write the Latin or English words, then put aside the book and write the equivalent from memory. Sometimes they correct their own words, sometimes another pupil does this and often I do it myself, i. e., I underline the incorrect form and they make the correction. Whatever method is followed the teacher must watch carefully because there always will be pupils who try to take advantage of this unconventional form of study. When we reach the declensions I see that each pupil declines on the board at least one noun or adjective of each declension that occurs in the vocabulary using colored chalk for the endings and white for the root. I find the colored chalk serves to fix the ending more vividly. This method is used with verb endings also and is equally successful. When new verbs occur in the vocabulary certain new or difficult tenses are assigned to be written on the board and each pupil understands that this is done before he leaves the room. Often you find pupils who do not know a thing until they write it, then it is firmly fixed in mind.

In easy translation of Latin to English the question always arises of how much sight work to do. At first I did quite a little of this during the study period believing it a more useful practise than for the pupil to prepare it himself for the next day. But I soon discovered that it was always the quick pupil who volunteered the translation or who came to the help of the weak student who very gracefully resigned in favor of the former. If I insisted upon the weak pupil stumbling along, the bright ones became distinctly bored and restless. This is a hard problem and always will be as long as we have pupils of different grades of ability in our classes. Eventually I had to limit the oral sight reading. Sometimes I have this work written as rapidly as possible, assigning two or three sentences to be written in a certain number of minutes. Pupils bring the work to the desk as soon as they finish the assigned number of sentences. As a general rule I do not approve of pupils writing their translations of Latin to English and discourage it excepting in sight work as described and when the desire for fluent English is the main point. When the English sentences that are to be translated into Latin present many difficulties I often send one pupil to the board, then in rapid succession call upon

different pupils for the correct form of successive words. When the sentence has been written correctly it is erased and another pupil called upon to reproduce it. In this way the attention of all the pupils is required and held. The next day three or four of these more difficult sentences are assigned to be written and handed in during the recitation period and the others placed on the board. At other times the work is all done individually. I pass around the room and underline all incorrect forms. If the pupil is not able to make the needed corrections time must be taken to question him and to explain what is not clear. Often you will spend most of your time helping one pupil tho there are others who need your help just as much as this one. When the quicker pupils have finished their work they are permitted to read stories of Rome and of Roman life from selected books that are kept in the room. Sometimes a clipping from a newspaper is given them and they underline all words derived from the Latin. Again a root word is selected and they write as many English derivatives as possible. Some pupils prefer to write original Latin stories after they have finished their work, and while the Latin is often atrocious in its efforts to be modern, the practise is good and serves to fix many words in mind, so I never discourage it.

As one reaches the more intricate constructions in Latin great care is necessary in presenting the subject to be studied. I have different pupils read the various paragraphs and call upon some one for explanations or a resume of that read. If the construction does not seem clear I ask for English sentences illustrating the different points, then a few very simple Latin sentences containing the new construction. This must be done the day on which the work is presented for study if one wishes to avoid confusion in the minds of the pupils. All of this takes time and you will find a large part of the study period gone before you have accomplished what you wish. Then inadequate time for study remains. Here is another problem of supervised study. The average pupil thinks his work is done for the next day when the supervised period of work has ended, whether he has mastered one-half, or one-eighth of the work. From the very first each pupil must be given to understand that he is responsible for the entire assignment. If he does not get it during the study period he *must* study it outside as he is graded on the whole assignment. Some pupils will be exceedingly conscientious in this and others will feel grieved that you expect such a thing as outside study and will loaf until the last day and then not understand why they fail. You will have pupils whom you will need to watch constantly as they will not study except under pressure. I cannot say that I think the introduction of the supervised period of work has strengthened concentration. The tendency seems to be for any slight affair to distract the attention of most of our pupils. One reason for this, possibly, is that many teachers use both periods for recitation, saying that 30 or 35 minutes is not long enough for a subject such as Algebra, Geometry or a language. I feel myself that this is true, that a 45 or 50 minute period would not be too long for a recitation in any Latin class, but I absolutely refuse to carry a recitation over to the period given to supervised work. This means that many times a part of the recitation work must be omitted. But if you are careful to omit portions that present no especial difficulties, the results will be fairly satisfactory. I have no hesitancy in saying that the first year pupil should be taught to study during one of the two periods, preferably the latter.

If pupils have been well trained in the supervised work of the first year Latin, no particularly new problems will arise in the second year, but the same old problems will remain with you.

In beginning the work in Caesar it is best to start slowly. I never assign more than 6 or 7 lines for translation for a week or two, then there is time to observe the work of all in the class, particularly of those who need help. The "word for word" translation is perhaps the best method for weak pupils as it gives them the needed foundation which they should have acquired before. I never tell a pupil what a Latin word means but sit down beside him and help

him work out the form, construction or sentence. Often nearly the whole period would be spent working with one person while others just as weak received no help. Finally I decided to watch various pupils for a couple weeks then group the weak ones and help them in a body in the same way as I used to help one. This plan is quite successful. Occasionally a pupil becomes proficient enough to be transferred to the group of those who need little or no help. Once in a while one will even ask to be transferred, as he feels able to do his work with less help.

Some teachers require note-books for prose work, but I discovered long ago how worthless this work is unless done in class. When prose is the work for the next day I have all explanations, illustrations and idioms carefully studied during the study period of the preceding day. All sentences that present difficulties are explained to the class and often written on the board. If there is one construction that seems not quite clear it receives attention until it is clear. The assigned sentences are then written as accurately as each pupil can write them, and corrected in class. I try to assign no more than the average pupil can master in the period. The next day these sentences are written during the recitation period with no aid from me nor from the book. Some surprisingly accurate sentences result and some as surprisingly inaccurate, for you will always find some pupils who translate Latin quite fluently but who cannot translate any English sentence into any kind of intelligible Latin.

This, in condensed form, is the general plan of work during the study period of my first and second year classes. The same methods can be employed in the third and fourth year if supervised work is carried through the four years. Personally I should prefer a longer recitation hour in these years and require the pupil to do his studying at home or during regular study periods, for by this time any pupil who continues his work in Latin should be sufficiently sure of himself and his forms to carry on his work independently.

After discussion of this paper, the section adjourned to meet in the afternoon in the joint language session.

MIMA A. MAXEY, *Secretary*.

5. COMMERCIAL SECTION

The morning session of the Commercial Section opened with Chairman, Mr. I. L. Rogers of Waukegan, presiding. Mr. H. F. Ford of Springfield was appointed Secretary in the absence of Mr. D. L. Lewis of Danville.

The dean of the School of Commerce, Mr. C. M. Thompson, was called to the floor by Chairman Rogers and in a few well chosen words made the visitors feel a personal welcome to the University.

The morning session was devoted to two addresses by business men from Chicago, Mr. Earl Putnam Clark of Butler Brothers and Mr. Wilbur Helm of Montgomery Ward and Company. Both speakers were familiar with the educational field through actual service in it as teachers. Before entering business Mr. Clark had been on the teaching staff of Northwestern University and Mr. Helm in Exeter Academy and Princeton University. Both gentlemen spoke from notes and Mr. Helm departed quite freely from the main subject of his discourse to make plain the relationship between education and business.

In both cases the treatment of the subject was inspirational and the personal appeal made by the speakers can not be conveyed in a report.

Mr. Clark spoke from the following outline on

"Practical Training for Business" which is based on five fundamentals, as follows:

1. Basic knowledge of English.
2. Basic knowledge of Mathematics.
3. Background subjects:
 - Geography.
 - History.
 - Civics.
 - Economics, and Science.
4. Personal qualities:
 - Self-confidence.
 - Leadership.
 - Personality.
5. High Ideals of Life.

Discussion was limited to a very few remarks and questions.

Mr. Helm was immediately introduced. His subject was "Better English in Business."

Before opening his address Mr. Helm digressed to say emphatically that Sharp Practices which formerly governed in business has no place in modern successful business. He showed how this was growing out of the teaching of the home and school by showing how the present Dry Amendment is the outgrowth of the quiet teaching of the temperance legion of a generation gone by.

In beginning the discussion of his topic, Mr. Helm outlined his early school training and teaching experience, as mentioned at the beginning of this report, to show that he was speaking from a rich experience and therefore with authority and understanding.

In his present capacity in charge of the correspondence department of Montgomery Ward, Mr. Helm has two big problems. The first, to choose and train correspondents and to handle the letters of dissatisfied customers.

The real problem he says is to get the personality behind the letter into the letter in such a way that it will be a personal though a deferred interview.

The letter should be accurate, conveying the absolute facts in the case. It should be original in its content and expression. It should not be overdone or underdone, but as far as possible it should be suited to the recipient. It should be courteous, simple and straight forward. In this way it should command the respect and confidence of the reader in the same way that an interview would command a hearer.

In showing how vital and valuable the good correspondent is, Mr. Helm explained that a candidate, no matter how much his training or

of what length his experience, must go to school with them several months before being allowed to write a letter and then submit to close censoring before becoming a fully trusted correspondent.

In speaking of the use of form letters it was clearly shown they had a place and value as does the paragraph book but that the correspondence concerned with such matters as complaints, letters cutting down or letters canceling orders should always be dictated. He went farther and showed resort to such a means not only injured business, but also weakened the value of the correspondent.

The necessity for getting away from theoretical teaching on the part of schools into practical adaptations was shown. In this connection a book "Correct English Drill Book," Josephine Turk Baker, published by A. C. McClurg, of Chicago, was mentioned. In any case emphasis was placed on essentials of grammar and correct use of words.

Both from the viewpoint of the school and the pupil, Mr. Helm favors a training for secretarial work rather than specialization for some particular opening which will surely lead to the blind alley job. Both teacher and pupil should keep out of a rut and develop interest and ambition for advancement into a career demanding large powers.

Regarding his opinion of a model content for commercial training the Alexander Hamilton Institute was cited. Continuing the discussion of the value of broad and thorough training an illustration was given of a University of Chicago graduate who was able to reach the prized position of assistant buyer in three months over the heads of specially trained and long experienced employees.

AFTERNOON SESSION

The report on Commercial Curriculum Reconstruction was read by Mr. S. B. Irish, of Evanston. The report in full follows:

Report on Commercial Curriculum Reconstruction **S. B. Irish, Evanston, Chairman**

At the meeting of the chairmen of the various committees on the study of curriculum revision which was held in Dean Charters' office last May, it was decided that the work of these committees should extend over a period of four or five years, and that a large number of workers on each committee would be necessary. The advisability of attacking our project in this manner will be apparent to any one who attempts to construct a satisfactory commercial curriculum.

The student of curriculum construction finds himself confronted with a vast and formidable array of questions which he must answer before he can build a curriculum that will be even moderately satisfactory. Many of these questions have been answered by individuals or communities to their satisfaction, but an even larger number will continue to be debated and reconsidered until some scientific method of finding the answers has been applied.

As examples of questions that should be answered only after careful study, but that should be answered before we propose a state-wide curriculum,

the following will serve: In a commercial curriculum, what proportion of the work should be general rather than technical? In Illinois, each community has answered this question, and we find the answers varying from "no requirement" to "about one-half." Should there be separate curricula for pupils who expect to remain in high school for less than four years? Again we find a disagreement in practice. How much time should be given to each subject in the curriculum? In what year or years should each be offered? What should be the content of each subject?

Those who are engaged in a scientific study of curriculum building tell us that we should not attempt to answer questions like the ones mentioned until we have found our objective—a target upon which to train our educational artillery. It is comparatively easy to name objectives in general terms; for instance, health, character, citizenship, preparation for college work, preparation for a business career; it is more difficult to analyze these objectives and to outline courses of study which will meet the requirements.

Colleges and universities have analyzed the objectives and formulated requirements for those high-school pupils who are to continue their studies in the institutions of higher learning. To know what subjects will be accepted for entrance and what ground must be covered to meet the requirements, we have but to consult the catalogue of the institution in which we are interested. The catalogue of the business world is not so definite. To be sure, we know that the ability to read and write, to spell, and to make accurate computations is essential, but this essential is pre-vocational rather than vocational. If we are to give commercial pupils an adequate preparation for life in the business world, we must not be content with any curriculum which fails to give specific training for the duties which they are to perform. This does not mean that we must make our pupils into bankers, or textile workers, or automobile salesmen. It does mean that we should give them the training which will make them valuable in any kind of business they are prepared to do well, some specific part of the work in connection with that business.

Nor should we stop here. Many a young graduate has fitted so well into a particular groove that he has been left in it year after year, until he has worn it so deep that he has gotten below the surface and is lost to the sight of those who are promoting other workers whose general knowledge of business principles gives them the advantage. If our pupils are to secure the advantages which will justify their expenditure of time in the pursuit of a commercial course, they must acquire a knowledge of the fundamental principles of business; otherwise, they are likely to remain routine office workers, or clerks, regardless of the native ability they may have. It seems that our objective resolves itself into a target that displays at least two colors—specific technical training, and a knowledge of business principles.

Excluding, for the present, a consideration of the services we must render the high-school pupil in respect to his health, his character, and his general qualifications for membership in the social and civic clubs which every community represents, we are now ready to think of our curriculum from the viewpoint of the business world.

How can we determine upon a satisfactory curriculum for specific technical training? We must not assume that what a majority of schools do is of necessity the best thing, although we shall be greatly helped by a knowledge of their experience. It is evident that our first step is to discover what specific duties our pupils are called upon to perform when they enter the business world, and we must find out whether or not we are giving them the training which prepares them to perform these duties well. We should learn whether or not we are compelling our pupils to spend hundreds of their valuable hours upon subject matter that is supposed to give this training, but which really does not give it. We are likewise anxious to know whether other work than that which we give them to do would be better for this purpose. Are we spending too much time upon one subject and not enough time upon

another? Are we ignoring a demand for training in certain directions and over training in others? If we are making any of these mistakes, we should know it.

We have two sources of information on these points; namely, the employers and the workers. If any one can give us definite information, these two groups should be in a position to do so; but we must weigh the opinions coming from these sources, and discount at certain points for prejudice, lack of understanding, and self-interest. To accept as final any opinion which is based upon an error, is to defeat the purpose of our investigation. It is necessary to have the opinions of a large number of people from each group, and it is equally necessary to reason from these opinions rather than to accept them at face value. To illustrate my point, if a former pupil tells us that he is using his knowledge of bookkeeping but not his knowledge of arithmetic, we instantly see that his opinion may be erroneous, especially if a large number of his co-workers testify to the value of their training in arithmetic as an aid in their work.

It is the intention of this committee to find out what duties are being performed by former pupils who have had commercial training in the high schools of the state; to get their opinions as to the adequacy of the work they did in school to prepare them for these duties; to learn their views on the question of training which they did not have, and to discover what changes in the curriculum would be likely to result in more rapid advancement for our pupils. We purpose to listen attentively to the stories of the employers, and to suspend judgment as to what should constitute a commercial curriculum until we have weighed the evidence and made careful deductions from it.

This method of procedure is neither radical nor new. Although thus far the committee has found difficulty in securing any large number of reports based upon this method, three investigations that are worthy of notice may be mentioned as indicative of what may be done. These investigations are reported by Superintendent F. V. Thompson of Boston, under the title, "Commercial Education in Public Secondary Schools"; the work is edited by Paul Hanus and is published by the World Book Company.

The first of these investigations, known as The New York School Inquiry, is based on a questionnaire sent to the business men of New York City. The following questions and answers are from this report:

1. Do you perceive any defects in the present business training given in our high schools? If so, what defects are most striking?

Handwriting; spelling; knowledge of business methods, arithmetic, and languages; ability to express thoughts clearly.

2. Do you advise the study of foreign commercial languages?

Spanish, French, German, Italian.

3. Would a knowledge of the fundamental principles of business, such as merchandising, advertising, salesmanship, and business organization, be more valuable to young men than specialization in clerical subjects?

Nearly all answered in the affirmative.

The following report is from that of a special committee on commercial education, from the Boston Chamber of Commerce:

1. What education beyond grammar grade seems to you valuable?

None	15.8%
More education, but not defined.....	61.2%
Definite demand for higher training.....	13%
No opinion expressed	10%
2. What are the better paying positions in your business?

Buyers and salesmen	69.6%
Department heads and managers.....	16.8%
Office positions	13.6%

3. Does a knowledge of stenography and typewriting help a boy or girl to get into the better paying positions?

Helps boys	51
Does not help boys	65
Helps girls	73
Does not help girls	44
Employees were asked to state what subjects had been of business use to them.	

Penmanship	675
Mental arithmetic	664
Bookkeeping	446
Typewriting	357
Stenography	221
Commercial English	37
Scattering	117

The third report concerns an investigation made by the Massachusetts State Board of Education.

Practically all of the two hundred three girls who replied were doing clerical or general office work.

Two hundred seventy-eight boys designated their positions as follows:

Salesmen	16
Stenographers and typists	58
Clerical, bookkeepers, general office workers	204

The question: Are stenography and typewriting worth a boy's time as a means of furnishing remunerative employment? was asked. They answered:

Yes	206
No	57

Should a boy try to get into the better paid positions through office employment or by way of the selling force?

Sales force	142
Office employment	116

Conclusions reached by the committee follow:

"Without doubt, the ability to render efficient service as a stenographer, when first gaining employment, brings a boy into closer contact with the men 'higher up' than do general office and stock room work. As a profession for men, stenography offers boys few opportunities. As a stepping stone for a boy seeking promotion, stenography, with typewriting, may have considerable value; but the time required for its mastery consumes so large a part of the final years of a high-school course as to make it of doubtful expediency."

Other conclusions were as follows:

"The schools need to adjust courses and methods to correspond more closely to business practise.

"New equipment; i. e., adding machines, billing machines, cardfiling devices, must be added to our present meagre furnishings.

"Commercial education must expand its scope to include training for commercial occupations other than clerical.

"Stenography is the best-paid commercial vocation for a girl, but for a boy, salesmanship is better than any other commercial occupation."

Bulletin 34, issued by the Federal Board for Vocational Education, deals with commercial education. This bulletin was written by Mr. F. G. Nichols, assistant director of commercial education of this board, and it represents the judgments accumulated during twenty years' experience in this field. Extracts from this bulletin indicate the trend of thought which characterizes the work.

For example, "Commercial education is no longer an experiment. It has passed beyond the stage in which vocational value can be questioned. We may look forward to speedy achievement of a type of business training that will meet the needs of increasing numbers of boys and girls.

"What is needed most to hasten this result is the broadening of commercial education so that it will be coextensive with commercial occupations. No longer are the stenographer and the bookkeeper looked upon as being the only kinds of commercial workers for whom training is necessary. Other employments, commercial in character, are now regarded fully as important as these two better known vocations. Differentiated courses that will enable those who choose to enter business through less conventional channels than bookkeeper or stenographer should be established wherever possible."

This bulletin declares that commercial courses in the past have not been established on the basis of local vocational needs, and that no recognized standard has been established, either for courses of study or subject matter. It states that commercial education has taken on a new significance in recent years, so that the term now includes all the occupations connected with the administrative and distributive sides of business; such as, office work, machine work, outside salesmanship, retail selling, advertising, auditing, accountancy, commercial engineering, foreign trade service at home and abroad, secretarial duties, expert filing, clerical duties, and transportation, in addition to the greatly changed fields of bookkeeping and stenography.

The bulletin further states that a complete organization will provide plans for meeting the needs of all classes of office workers, and will call for a thorough knowledge of local occupations in shaping courses of study in terms of vocational requirements. It outlines the things to be considered in organizing commercial education as follows:

1. The character of the group for whom such education is intended.
2. The type of training that is required and the manner in which it is to be given.
3. To have a sense of responsibility for the placement of those who complete the prescribed courses.
4. The recognition of the fact that success in a job is the only yardstick by which a course of study can be measured. This means a "follow-up" system.

Of the five classes of persons mentioned in this bulletin, only the first two classes come under our present consideration; namely, the boy or girl between the ages of fourteen and sixteen years who is still in school, and the boy or girl between the ages of sixteen and eighteen years who is still in school. For these groups, a course is outlined as follows:

SENIOR HIGH-SCHOOL COMMERCIAL COURSE

All subjects are "prepared" unless otherwise indicated.

First Year

	Hours Per Week
English (including simple business letterwriting).....	5
Commercial mathematics (unprepared).....	5
Commercial I (including elementary bookkeeping, business practice, and business writing)	10
Typewriting (unprepared)	5
Science (including hygiene, etc.)	5

Second Year

Required:

English	5
Commercial geography (including physical geography, local industries, and commercial products)	5
Commercial II (intermediate bookkeeping and business practice)...	5

Electives (choose one):

Shorthand (If student has decided definitely to choose the general business or retail selling course in the third year, shorthand should not be elected. In case of doubt or in case the stenographic course is chosen, elect shorthand).....	5
Foreign language (preferably Spanish)	5
History	5
Typewriting (must be taken if shorthand is elected. May be taken as an extra subject without shorthand; unprepared).....	5

Third Year

General business and accounting:

Required:	
English	5
Physics or chemistry	7
Office practice	3
Advanced bookkeeping	5
Electives (choose one):	
Foreign language	5
History	5
General business and accounting—Continued.	

*Fourth Year*Hours
Per Week

Required:

Commercial English (including business correspondence, public speaking, sales talk, etc.).....	5
Advanced American history with civics	5
Commercial law (first semester)	5
Economics (second semester)	5
Advertising, salesmanship, and business organization.....	5
Principles of accounting	5
Experience in business offices alternate weeks this year.	

Third Year

Stenographic, secretarial and reporting:

Required:	
English	5
Physics or chemistry	7
Shorthand	5
Typewriting, transcription, 3 periods a week.	
Office practice	3
Electives (choose one):	
History	5
Mathematics	5
Domestic science (girls)	5

Fourth Year

Commercial English (including business correspondence, public speaking, etc.)	5
Advanced American history with civics.....	5
Commercial law	5
Economics	5
Secretarial practice	5
Experience in business offices, alternate weeks.	

Third Year

	Hours Per Week
Retail selling:	
Required:	
English	5
Physics or chemistry	7
Salesmanship and merchandise	5
Electives (choose one):	
History	5
Foreign language	5
Domestic science	5
Manual training	5

Fourth Year

Required:	
Commercial English (including sales talk, public speaking, and letterwriting)	5
Advanced American history with civics	5
Store practice and retail store organization	5
Store system and merchandise	5
Store experience, minimum 20 school days and 30 Saturdays during junior year, and minimum 40 school days and 30 Saturdays, evenings and holidays senior year, with credit for such work; alternate week arrangement if preferred.	

Third Year

Foreign trade and shipping:	
Required:	
English	5
Physics or chemistry	7
Document technique or foreign trade paper work	5
Electives (choose one):	
History	5
Foreign language	5

Fourth Year

	Hours Per Week
Required:	
Commercial English (including foreign commercial correspondence)	5
Advanced American history with civics	5
Advertising and salesmanship; business organization and management	5
Foreign trade and sales practice	5
Foreign language (if begun earlier)	5
Experience in a business dealing with foreign trade either alternate weeks, or on some other basis as may be worked out by educational directors and employers.	

It will be seen that these curricula offer a choice of five main channels into business; namely, general clerical service, general business and accounting, stenography, retail selling, and foreign trade. Salesmanship may be added for those who have the personal qualifications for and interest in outside selling as a life work.

Following is a report on an investigation made this year in Evanston: The first graduates from the commercial course of Evanston Township High School were those of the class of 1915. These graduates had had only three years of commercial training, but those who have been graduated since that time have had four years of commercial work. With graduating classes averaging fewer than 150, eighty percent of whose members have gone on to college work, the number of commercial graduates is small, totaling only 37 to date.

To these 37 commercial graduates, we sent a questionnaire for information as to the nature of the work they are doing, and containing a list of subjects to be checked as helpful in their present work. We also asked them to list other subjects that they might have found helpful if they had studied them. Twenty-two replied, 59%, as follows:

GROUP I. COMMERCIAL GRADUATES

<i>Kind of Work</i>			
Stenographic	8	Accounting	10
Clerical	2	Com. arithmetic	11
Stenography and bookkeeping.....	2	Com. English	17
Valuation work	1	Com. law	5
Bank Work	1	Economics	4
Salesmanship	1	<i>Other Subjects Needed</i>	
Stenography and general office work	5	Spanish	1
College	2	French	1
<i>Helpful Subjects</i>		Manual Training	1
Stenography	19	Engineering	1
Typewriting	19	Filing	1
Bookkeeping	12	Mimeograph work	1
		Latin	2
		Mech. Drawing	1

Remarks—The only members of this group who did not check stenography and typewriting are the two college students and the member doing valuation work. It is known that seven members did not study economics.

We sent the same questionnaire to 78 non-graduates of the commercial course who are not in school, and received replies from 36, or 46%, as follows:

GROUP II. NON-GRADUATES OF COMMERCIAL COURSE

<i>Kind of Work</i>			
Stenographic	12	Adding mach.	1
Typewriting	1	Billing mach.	1
Stenographic and bookkeeping.....	3	<i>Kind of Work</i>	
General office work	2	Banking	1
Clerical	2	Typing and bookkeeping	2
Typing and clerical	1	Stenography and multigraph	1
<i>Helpful Subjects</i>		Seamanship	1
Stenography	24	Printing	1
Typewriting	30	Typing and Dictaphone	2
Bookkeeping	18	Accounting	1
Accounting	6	Stenography and clerical	2
Com. arithmetic	14	Bookkeeping	2
Com. English	26	Buying and selling	1
<i>Other Subjects Needed</i>		Comptometer	1
Latin	1	<i>Helpful Subjects</i>	
Polish	1	Com. law	3
Italian	1	Economics	1
Comptometer work	1	<i>Other Subjects Needed</i>	
		Dictaphone	1

The questionnaire was sent to third group, composed of 20 graduates from other courses, with some commercial training. We received replies from 13, or 65%, as follows:

GROUP III. GENERAL COURSE GRADUATES WITH SOME COMMERCIAL WORK

<i>Kind of Work</i>		<i>Helpful Subjects</i>	
Stenographic	4	Stenography	11
Clerical	3	Typewriting	13
Salesmanship	2	Bookkeeping	2
Stenographic and general office		Com. law	1
work	2	Mechanical drawing	1
Banking	1	Banking	1
Indefinite	1		

COMMENTS ON THE EVANSTON INVESTIGATION

Of the 71 employees reporting, we find that the numbers who say they are using their knowledge of the subjects submitted are as follows:

Typewriting	62—87.3%
Stenography	54—76. %
Commercial English	43—60.5%
Bookkeeping	34—48. %
Commercial arithmetic	25—35. %
Accounting	16—22.5%
Commercial law	9—12.7%
Economics	5— 9. %

That so few checked accounting, commercial law, and economics is at least partially explained by the fact that 36 of these people are not graduates, and consequently a large number did not reach these subjects, which are offered only in the fourth year. It is known that 13 did not take commercial arithmetic, and we may safely assume that some who checked bookkeeping but not commercial arithmetic are using their knowledge of the latter subject, to a certain extent. Inasmuch as geography is being reported upon by another committee, commercial geography was not listed on the questionnaire. Penmanship is taught in the grades as well as in high school, in Evanston, and its usefulness is not in question.

Since this was intended as a vocational study, the general subjects, i. e., algebra, geometry, American history, civics, general English, and elementary science were omitted. Spanish is now required in the fourth year, and is offered as an option in the third year, for those who plan to go to college.

The subjects listed as "needed" by more than one person are: Latin, 3; comptometer work, 2; mechanical drawing, 2.

Curricula that offer opportunities for entering the business world through several channels are in use in a number of high schools; for instance, the High School of Commerce of Omaha, Nebraska, and the high schools in Sioux City, Iowa, Springfield and Waukegan, Illinois.

To aid the committee in its work, the members of this conference can do two things; first, report to the committee studies in commercial curriculum reconstruction that have been made, and second, undertake local studies, either in a single subject or in groups of subjects. The two questions which we wish to answer during the year are: What work are our former pupils doing? and, What can we do to make the curriculum stronger from the viewpoint of vocational training?

The Committee:

S. B. IRISH, Evanston, Illinois.
H. T. SCOVILL, University of Illinois.
I. L. ROGERS, Waukegan, Illinois.
H. F. FORD, Springfield, Illinois.
G. W. BLOMQUIST, Chicago, Illinois.

Prof. H. T. Scovill, of the University, explained the endeavor of the committee to work out a program which would be a component part of a unity with the work of the general Committee on Curriculum Revision.

The last number on the program, "Our Courses in Stenography," was presented by Miss Florence Evans of Maywood. Her discussion of the subject follows:

Our Courses in Shorthand Florence Evans, Maywood

How many times we have heard this discussed, and I am sure we have all thought it over again and again, and we are trying to send out each year's class just a little better than the one before.

There are magazines out every month that give different ideas upon the teaching of stenography and typewriting. Some of these we find bring us good results. Other things we try out, are our own ideas. So I often wonder what there is left to be said.

We know that stenography is only one step in Commercial Education and it is our business to improve every point in order to supply the demand with better stenographers.

The art of shorthand dates back to Ancient Greece and while many systems have gone out of use it is today more widely used than ever.

We as shorthand teachers have a great problem before us today, not only do we know that the demand for stenographers is greater than ever, but we know that there is a demand for a better quality of work. And how are the students to make this gain—only thru the efforts of the stenography and typewriting instructors?

The old idea that high school students after they have had two years of stenography and typewriting, could not go out and hold a position on account of the fact that they had to study other subjects in connection with stenography and typewriting, and they would have to go to a business school in order to get "speed," is long past.

We must turn out students that are capable of holding good positions, and when we fail to do this there is something wrong. Sometimes it is the way in which we present our subject in the beginning year, which is the important year. Presenting it to a class of Freshmen should be entirely different to that of a class of Juniors—yet, many of us have a mixed group. We forget that we are trying to present to young minds something that is entirely foreign to them. I will venture to say the majority of teachers in high schools today never studied shorthand until they had finished a College course or at least had two years of college work. And how easy it is for us to remember how it was presented to us, and not stopping to think how much more matured we were.

These young people are trying to gain this knowledge in order to make their living so we must adjust our plans to meet the student.

We have not had training schools for Commercial teachers—occasionally a lecture, but things are changing and today there are several states in the U. S. that have provided Commercial teacher training facilities. State Normal School, Salem, Mass., has a four year Commercial teacher training course. State Normal School, Plattsburgh, New York, has a two year course, also State Normal School, Whitewater, Wisconsin, has a two year course. New York University has a four year course. Simmons College, Boston, a four year course. University of California has organized a training course at its Southern Branch at Los Angeles.

All vocational education should be suited to the age of the student for whom it is intended. And no student should be trained for a position which we know he or she cannot fill successfully.

Boys and girls of the Sophomore school age are too young to become stenographers. Their minds are immature, they do not have the foundation that stenography requires.

Only those students that have *ability in English* together with *mental alertness* should be allowed to study stenography as a vocation.

But here is a problem—we, in public school work can not tell students they have not the ability to grasp stenography. Occasionally we can advise students to drop the subject, and they do, and again others do not. Their parents will not permit their dropping the subject; but instead they insist that they continue, which generally results in a failure as a stenographer.

But I will try to discuss the two and four years courses in which stenography and typewriting are the Major subjects.

(Federal Board of Vocational Education, Washington.)

In our two year course, Stenography is offered in the first and second year. Now we have these students just out of the Eighth grade and we are to have them only two years, so we must outline a plan whereby they will gain the very most that is possible, and as long as we offer a two year commercial course with stenography and typewriting as the major subjects, the other subjects studied should be those that will help them in their stenographic work.

In the first year—English, Commercial Arithmetic, Stenography, Typewriting, Penmanship and Spelling (alternating these with typewriting), Science (including Hygiene).

English—Much time should be spent on Grammar Review, also, in this year they should create a love for good books.

No Commercial student, under any reason, should be excused from penmanship. They above all other people are expected to write a legible hand. We as stenography teachers are considering it far more than ever before, and even find ourselves giving penmanship drills that lead to our shorthand outlines.

Under Science—All students, even though they know they are to be in school but a short time, should have at least a little appreciation of Science. It gives them a chance to reason things out for themselves.

In the second year.

Business English.

Commercial Geography—including physical geography, local industries and commercial products.

Stenography II.

Typewriting II.

European History.

All students being required to take Physical Training thru the two years.

Business English should include a great amount of letter writing. In this we will find the students very limited as to their composition work. It requires more training than they have had up to this time, to compose a good letter.

This seems to be a limited amount that the student had gained, and it is, but is there any change that we might make, and still hold stenography and typewriting the major subjects?

At the end of their second year, what kind of positions do these students fill? Some go to clerical positions, others into positions where a little stenographic work is done, while others might be fortunate enough to get into a large firm and be one of a circulating group of stenographers. Now, this I consider one of the best places that a two year student might get into. Many firms while they employ a great number of stenographers, there are some departments that do not need all the time of one stenographer, so they keep a circulating group, and in this way stenographers receive dictation from four or five different parties during the day, and if they are alert, they will improve their vocabulary wonderfully.

These students might know their principles of shorthand, be able to operate a typewriter at a fairly good rate of speed, yet after all they are minus the background, which is a good English vocabulary. That is why I consider it an opportunity for the two year student to get into a position as I have just mentioned, for it is very often from this group, after they have proved efficient, that their regular stenographers are selected.

Another point to be considered in the two year student is his or her age. An employer does not care to entrust his correspondence to a mere child.

Very often if these students who are to be in high school only the two years, could be led to see that there are so many other occupations that students of that age—14, 15 and 16—could do, such work as that of a shipping clerk, mail clerk, cash messenger, etc., other than learning stenography and typewriting, it would only be a short time before stenography would not be called for in the Freshmen year. Then that would give us an opportunity of placing it in the last two years of their high school course. Where as it is now our beginning stenography classes are made up of Freshmen, Sophomores and Juniors. In a great number of our schools the Stenographic Department is not large enough to make a division of the Freshmen and the Junior Stenography classes, but instead the little Freshman and the student who has had two years of high school training are placed together and are to receive exactly the same training.

In Stenography we can't outline a course to suit the Mental Caliber of the student, as can be done in English, Mathematics and Science, and at the end the slow students have gained a little, whereas, if they had stayed in their other classes they would not have gained anything. But in stenography and typewriting there is no part that we can eliminate; every point must be learned exactly as it is.

In our *Four Year Course*.

English—The same as the two year course.

Language—I would suggest Latin as it gives the student a foundation for his English work, but if he prefers some other language, very well.

First Year Science—Alternating with Benchwork or Mechanical Drawing for the boys, and Art for the girls.

Commercial Arithmetic.

Second Year

English II.

Language II—Continuing for the first year.

Commercial Geography.

Penmanship and Spelling.

An Elective—History or Bookkeeping.

It is well for all students even though they might not use bookkeeping in their work, to know a few terms, and the new methods that are used today in the teaching of bookkeeping, one can gain quite a little knowledge in one year.

Third Year

English III

Stenography I

Typewriting I

Salesmanship and Advertising

Commercial Law

Economics

Fourth Year

Business English

Typewriting II

Stenography II

U. S. History

These students, by the time they have reached their Senior year, should have a good knowledge of Academic English and a great deal of time should be spent upon the composition of different types of business letters.

In their second year of Stenography they receive training in letter forms, so why should not the Business English go right along with the second year's work in stenography?

One course that I consider quite essential to the second year stenography course is that of "Office Training." This, if handled properly, will mean a great gain to the student. So many points are brought out such as:—

- Incoming and Outgoing Mail
- Postal Information
- Filing
- Office Practice
- Shipping
- Commercial Abbreviations
- Billing
- Etc.

The points that a student should know before going out to a position. No doubt, the instructor would try to bring these before the class, but if they have them before them in a book form, and material with which to work, they will find that the results are very much better.

I wrote to five Universities and asked them what credit was given for Stenography and Typewriting. These are the replies:—

Illinois: The subjects must be taken together, no credit is given for either one by itself. For one unit—Two periods (40 min.) daily for one year of 36 weeks. The standard 75 words a minute and 25 for transcription. For two units—100 words a minute and 35 words on the machine. Accuracy in spelling, punctuation, capitalization and paragraphing is considered.

Missouri University: One unit for stenography and typewriting. No special rate of speed is required. He is given credit if he has completed the course in a fully accredited high school.

Kansas University: Same credit, nothing is mentioned regarding speed.

California University: Allows two credits for two years of high school work. One unit requires a speed of 75 words and two units 125 words per minute.

Wisconsin University: No credit is granted in Commercial work.

Just a word about the teaching of stenography and typewriting. In stenography I begin to work speed at the very beginning, the old idea was to work for perfect outlines, but I have found by putting stress upon proportion of strokes, and at the same time pushing them just a little, they will come out with their perfect outlines. It is remarkable to watch the slow movement students come up to this point. Practice speed on different strokes or combinations, or the whole alphabet every day for three or four minutes during their first year is very helpful.

New matter should be dictated from the first lesson. In their tests, weekly or monthly, I do not write the questions on the board (unless it is a test on rules) but dictate the words and short sentences. The first few times will be a little difficult, for it is easier for the student to write the outline of a word when he can see the word, but it is the hearing we are to train, and it must be started at the beginning.

I will not take time to discuss second year work, but will say the following three points I put extra stress upon:—

- Constant review of the principles of the system.

- Reading of shorthand notes.

- Copying from accurate notes.

- A word about typewriting:—

One of the saddest things there can be displayed in the beginning work in Typewriting is where the student sits down to a machine, perfectly new to him,

and has a typewriter book before him, his instructor shows him a few points about the machine, also how to place his fingers, and then leaves him. And how many times have we heard students declare that they just hated typewriting and never could learn it, when all that was needed, was a little attention and encouragement.

For the first semester, I conduct the work all from the blackboard. (No beginner has a book.) I place a diagram on the board of that portion of the keyboard which I wish to introduce to the attention of the class, and bring out the definite association of certain fingers with certain keys. Each day working out combinations, words and series of words that include the new keys that are introduced, not forgetting each day to review the keyboard from the beginning. I might add here this is one point that I hold thru the student's entire typewriting course, always, before they begin to work, go over their keyboard drill and their alphabet, forward and backward.

I find the use of a victrola quite helpful—timing the stroke. The fingers of the clumsy student respond quickly to this compelling influence, and the association of certain keys and fingers is accomplished without effort on the part of the student.

It is harmony of thought and action what produces the very highest type of concentration.

In the discussion of the topic in answer to the question as to text, Miss Evans stated that she used none during the first semester's work. Material is placed on the board or dictated. She showed by using the board how she developed the keyboard. Three phases of the development follow:

1. a—s—d—f——h—j—k—l—;
 e i
2. a—s—d—f——h—j—k—l—;
 e i
3. a—s—d—f——h—j—k—l—;
 c ,

It was explained that every pupil, no matter how far advanced, is required to go through the drills, as given in the beginning, at the first of every typewriting period up to the very last day of practice.

Mr. S. B. Irish spoke of his experience in Galesburg, Illinois and Racine, Wisconsin. The problem he was investigating was "How do the business men regard the training given in commercial subjects by the high schools as compared with the training given by the business colleges." Answers from business men in both cities was practically unanimous in preferring pupils who had high school training.

Miss Van De Veen showed that the curriculum problem was complicated by the varying needs of different communities citing the problem of commercial education demanded in an agricultural community.

Mr. Rogers explained that his experience with the two year commercial course had shown a gratifying increase in the hold-over into the four year course and that his experience with a ninth semester of intensive commercial training had created a demand which could not be filled.

In the matter of correlation of the work of the commercial department with that of other departments it was shown that the burden can not be thrown on the other departments. This was illustrated by the work in English. If a graduate lacks vocabulary or is poor in the use of English otherwise, the commercial department gets the blame and can not pass it on. The department should therefore do its part in teaching English.

In the Business Session the place of Miss Agnes Barrett, of Centralia, was filled by the election of Mr. H. F. Ford of Springfield for a period of three years, 1919 to 1922. The place of Mr. D. L. Lewis of Danville, Secretary, was filled by the election of Mr. L. C. Ball of Bridgeport, whose term of office will expire in 1920.

6. COUNTY SUPERINTENDENTS' AND VILLAGE PRINCIPALS' SECTION.

The County Superintendents' and Village Principals' Section met in Room 206, Education Building, at 9 a. m., November 21.

Co. Supt. S. D. Faris was continued as President. Co. Supt. O. Rice Jones (1920), Co. Supt. Chas. H. Watts (1921) and Co. Supt. W. A. Hough (1922), were elected as committee.

W. S. Booth, the permanent secretary, was made a member of this Committee.

The following brief report was made at the Saturday session:

At the request of W. S. Booth, the permanent secretary of the section, who was obliged to be absent, J. C. Hanna reported a large attendance, an interesting program and an active interest.

In the morning J. O. Marberry, Assistant High School Visitor of the University, and H. M. Thrasher, Supervisor of High Schools, presented instructive papers on "The Limitations of the Curriculum of the Small High School"—Mr. Marberry dwelling expressly on the curriculum limitations of small four-year high schools and Mr. Thrasher dealing chiefly with the two-year high schools.

An exceedingly interesting and helpful address was made by Prof. J. Lawrence Erb on "The Possibilities of Music in the Small High School."

The afternoon session included a discussion of "Recognized High Schools" and "Accredited High Schools" led by J. C. Hanna, Supervisor of High Schools from the State Department, and H. A. Hollister, High School Visitor of the University. These were followed by Co. Supt. Theo. C. Moore of Pike county and Superintendent T. W. Callihan of Galesburg and others, in regard to the possibility of securing a common standard.

At the suggestion of Mr. Booth the section appointed a committee charged with the duty of framing some plan for a common standard

to report next year. The committee consists of H. A. Hollister, J. C. Hanna, L. W. Smith, W. A. Hough, D. F. Nickols, Leo Changnon, W. J. Zahnow.

After an interesting discussion the section unanimously passed the following resolution:

Resolved, That this section recommend to the University authorities the acceptance of one year of General Science as a full unit for admission to the University.

The papers follow:

Limitations on the Breadth of the Curriculum for Small High Schools

J. O. Marberry, Assistant High School Visitor

There are definite limitations on the breadth of the curriculum for small high schools. Some important factors in fixing these limitations are the following:

1. Lack of ability on the part of the people to provide sufficient revenue and in this we have the question of the proper distribution of tax.
2. Lack of disposition on the part of the people in some communities to provide sufficient funds although able to do so.
3. Lack of proper physical conditions for effective work, due to the above.
4. Lack of properly trained supervisors and teachers.

The ideal condition would be to have none of these limitations with the result that all the opportunities afforded pupils in our large high schools for the best training be given to the pupils of the small high schools. The pupils in the smallest high school in Illinois are as deserving of the best there is in high school training as those in the largest high school. But definite limitations are set regarding the amount of work to be offered in the program of studies and the best we can do in dealing with the actual conditions existing is to see to it that the program be limited to the extent that the work undertaken be done thoroughly well.

One of the latest books on the Curriculum deals with such timely topics as training for occupational efficiency, education for citizenship, education for physical efficiency, education for leisure occupations, and education for social intercommunication. It would be a wonderful achievement if every high school program of studies could be arranged to meet these needs.

The curriculum cannot be discussed apart from the importance of physical equipment and, most important of all, from that of properly trained teachers. The North Central Association has set very definite standards of requirements regarding these and other factors entering into high school work and the University of Illinois has cooperated with the high schools of the State in such a way as to bring about constantly improved conditions. It is important that such requirements as these be made in accredited schools. It would be wholesome if these requirements could be made to apply to every high school in the State regardless of size. For example, the small high school is just as deserving of properly trained teachers as is the large high school.

In this connection much has been accomplished in certain counties under the plan of unification of work in the high schools. With this plan the members of this section are familiar. Mr. Hanna, State Supervisor of High Schools, recognizes the needs of the small high schools and the limitations involved as to the breadth of the curriculum in recommending that in the two year high school the full teaching time of one teacher should be given to work above the

eighth grade and that only such subjects should be offered as English, mathematics, foreign language or history, science or one special unit, and that these subjects be properly organized for alternate years. He recommends further that an assistant be added if electives are offered.

Regarding the program of a three year high school the State Department recommends the following that is in keeping with our subject of "Limitations": "A three year school is likely to face the question of putting in a regular laboratory in physics (or chemistry). This should not be done unless the school can provide a separate room for a laboratory with a laboratory equipment that will bring it up to the standards for recognized four year high schools."

During the year 1918-1919 there were 121 two year high schools in Illinois with full or probationary recognition by the State Department. Only one offered a course in manual training, two in home economics, and eleven in agriculture. There were 83 three year high schools so recognized with but two offering manual training, three home economics, and eight agriculture. The percent of these schools that attempted to include these vocational subjects in their program of studies is small indeed.

There were 398 public high schools on the accredited list of the University of Illinois for the year 1918-1919. Of these, 174, or 44 per cent, enrolled 100 or fewer pupils. In the tables given below these are taken as the small high schools.

It is interesting to note that every one of the 174 small high schools offered at least 16 academic units of work. Table I shows the distribution (in per centum) of these schools according to the number of teachers in the schools.

TABLE I

Teachers	Per cent
3	29
4	45
5	16
6	7
7	3

As stated above, all these schools offer at least 16 units of academic work, including, without exception, the 6 units required by the University of Illinois in List A and enough additional subjects in List B to total at least 16 units. (See High School Manual, 1918, page 7.)

The question naturally arises as to the amount of work that should be undertaken in the small high schools in vocational subjects. The following table shows the distribution (in per centum) of the various subjects in List C under the heading of number of teachers in these schools. The total of the group is also shown for each subject.

TABLE II

Teachers	3	4	5	6	7	Group
Com. Arithmetic	18	19	22	42	20	21
Business Law	12	19	40	25	80	23
Bookkeeping	12	24	37	33	100	25
Stenog.-Type.	2	4	15	25	0	6
Music	0	1	4	8	20	2.5
Drawing	0	0	19	33	20	6
Manual Train.	4	18	37	33	40	18
Dom. Science	14	30	63	92	60	36
Agriculture	21	30	56	42	40	33

This table certainly shows a conservative attitude on the part of the small high schools toward very much extension of the program of studies beyond the academic subjects, or, in other words, that definite limitations are fixed in the amount of work that should be undertaken in the small high schools.

Limitations on the Breadth of the Curriculum for Small High Schools

H. M. Thrasher, State Supervisor of High Schools

The discussion of such a subject is doubtless of special interest to the members of the County Superintendents' and Village Principals' Section. Since the passing of the Non-High School Act the county superintendents have been particularly active in the organization of two and three-year high schools at various points over the county where high school instruction had formerly been unknown. The village principals have also been quick to realize the increased advantages under this law for the smaller centers, and they too have been busy turning the attention of their people to the establishment of a local high school.

Recently there has been a considerable increase in the number of two-year and three-year high schools and it is very important that they maintain standards fully as high as those of the first two and three years of the four year high schools. In order to do this they must recognize that their curriculums are subject to certain important limitations. It has been very evident that there has been the need of assistance and advice in this particular in order that some ambitious high schools do not attempt work beyond the scope of their ability. It is hardly necessary to point out that it is impossible to accomplish in two years or three years what may be done in four. This important limitation in time is one of the first to be faced by the school board, or principal in constructing the curriculum. It brings up among other things this question,—

Should the curriculums of the two and three year high schools be simply the first two or three years of the program of some nearly four-year high school? or

Should they be complete in themselves, jealously guarding the interests of those pupils who never progress farther than two or three years in a high school career?

It seems to me that they should occupy a middle ground, articulating easily with the program of the later years of the usual four-year high school course, but also following the sound principles of curriculum construction upon which the larger four-year course is built.

Today the entire high school curriculum is being subjected to searching scrutiny to discover whether it is developing in our boys and girls the knowledge, interests, ideals, habits, and powers necessary for complete citizenship. We are beginning to believe more and more that the high school program should provide, among other things, an efficient program of physical activities, that it should teach the love of clean athletics, and that the highest standards of hygiene and sanitation should be maintained.

We are believing further that 12 and 14 year old boys and girls have not become sufficiently proficient in the use of the English language, both oral and written. Consequently, throughout the whole high school course there should be continual emphasis on this study.

It is also essential that the high school course should develop in pupils an increasing interest in the right arrangement and conduct of a home. The household arts should have a place for every girl, and high school boys should get an intelligent appreciation of the problems concerned in the maintaining of a successful home.

Some vocational guidance has an important place in the high school curriculum. The pupil should be led to explore his own aptitudes and capacities, that in the end he may select his vocation with wisdom. He should learn the right relations that should exist between producer and consumer, and among his fellow workers.

Of vital importance is instruction in citizenship. The recent Great War has demonstrated beyond any doubt the need of a far-reaching program of Americanism. History, economics, geography, and civics—all such studies

should have the teaching of good citizenship as their dominant aim. Every boy and girl should learn his own personal responsibility for keeping the nation true to its highest ideals. He should know the greatest contributions that each nation has made to civilization and learn to appreciate them.

Some part of the school program should provide for recreational activities in music, art, the drama, and social intercourse, that the social activities of the pupils may be wisely directed. The high school literary club or society can be an important factor in such instruction.

Finally, that school fails which does not seek to develop ethical character. The social contacts of pupils with one another and with their instructors afford abundant opportunities for the developing of a sense of personal responsibility, initiative, and the true spirit of service.

Such ideals can be worked toward in the program of our small Illinois high schools although hedged about with certain limitations. To assist these high schools in this direction the State Department of Public Instruction has formulated certain regulations for standardization through recognition.

To secure recognition a two-year high school must have at least one teacher giving full time to the high school, and not teaching over seven classes a day. As each pupil takes four subjects the necessity of some alternation of subjects arises. Alternation is never ideal, but can be resorted to successfully in certain cases without being detrimental to general school efficiency. In general, no two related subjects should be alternated although unrelated subjects may be alternated with no resultant complications.

This limit of alternation found necessary in two-year, and some three-year high schools, has been partly responsible for the publishing of suggested curriculums by the State Superintendent of Public Instruction through Supervisor John Calvin Hanna. In the curriculum of the four-year high school there is frequently found during the first two years, the following groups of studies:—two years of English, two years of mathematics, two years of history and two years of science. The curriculums published by Mr. Hanna, and approved by him, follow such groupings with certain variations. In order to make them more clear, I shall present these curriculums in chart form. They are as follows:

CURRICULUM I (WITH A FOREIGN LANGUAGE)

9th Grade

English I
Algebra I
Foreign Language I
Elementary Science I
(odd year)

10th Grade

English II
Plane Geometry II
Foreign Language II
European History II
(even year)

CURRICULUM II (WITHOUT A FOREIGN LANGUAGE)

English I
Algebra I
European History I
Elementary Science I
(odd year)

English II
Plane Geometry II
European History II
Special Unit
(even year)

CURRICULUM III (WITH TWO YEARS OF SCIENCE)

English I
Algebra I
Elementary Science I
European History I

English II
Plane Geometry II
Science II
Special Unit

Before entering into the discussion of the different subjects of these curriculums, let me urge upon the principals present the value of having their Board of Directors adopt some approved course of study as the official course

of study of your high school. Unless such action is taken there is always the danger of careless and shortsighted changes by some new principal or superintendent. This action should be recorded among the proceedings of the Board of Directors, and also upon the school register. No recognized high school should make any change in the adopted course without consultation with the State Supervisor of High Schools. It is a daily experience for the High School Supervisor to receive applications for the renewal of probationary recognition from small high schools presenting an entirely different course of study from the one originally adopted and approved by the State Department. It is easy to see that such practice delays standardization and works against any uniformity of high school work. A number of county high school associations are rendering great assistance to high school supervision by adopting a uniform high school course of study for the county. The larger high schools of such counties have assumed a certain amount of leadership in such cases and the program of the smaller high schools as a result readily articulates with that of the four-year schools. Under such conditions the two and three-year high schools are experiencing very little difficulty in securing full recognition for the work of their pupils in the four-year high schools where such pupils finish their courses.

[Here follows a discussion of the merits of the various subjects taught in high schools.]

* * * * *

As most two-year high schools are taught by one teacher alternation will be necessary with any of the three suggested curriculums. The English, mathematics and foreign language groups should not be alternated for very obvious reasons. This leaves the alternation to the classes in history, science, and commercial or prevocational work. If two units of history and two units of science are taught the problem becomes very difficult of solution and the only possible plan in such cases is to alternate the two science subjects, since alternation in history is plainly unwise. This being the case, a two year course with two units of English, two of mathematics, two of history, and two of science admits of no successful alternation and should not be adopted unless there is more than one teacher in the high school. Schools adopting Curriculum I can alternate the single unit of science with the single unit of history successfully. In Curriculum II the elementary science should alternate with the special unit made up of commercial subjects and elementary civics. The European history in Curriculum III should be alternated with the Special unit. The same principles regarding alternation should be observed in the three-year high school course. Wherever possible alternation should be avoided. Even in a four-year course of sixteen units there should not be more than one or two cases of alternation.

There are certain limitations to the character of the studies pursued in the small two and three-year high schools due to the inexperience and general lack of preparation of the teachers. Here is the field where the pioneer work of the beginning teacher is generally done. Such teachers do not usually possess the college degree quite generally demanded of teachers in the four year high schools today. They should have educational preparation covering at least two years beyond a high school education, and hold a High School or Supervisory Certificate to teach in recognized high schools, but quite a number have not yet met this requirement. No high school will be recognized, however, this year whose teachers are not making active preparation to secure at least a High School Certificate before another school year opens. Very little can consequently be done in vocational work, the sciences and foreign languages in the average small high school. The highly specialized course of study then cannot safely be adopted. Compensating for this lack of curriculum breadth, however, is the youthful enthusiasm with which the small high school principals and teachers are meeting their local problems. Some of the best high school work in the state is being done in some two- and three-year high schools. As there is only one teacher many times in the high school faculty, the Board of

Directors has a great responsibility in his selection for an unfortunate choice invariably means failure for the high school.

The two and three-year high schools, then, possess very definite limitations as to their curricula. The need of alternation of studies, the general inexperience and small size of the teaching force, the limited equipment in room, laboratory apparatus, and library books, the small enrollment and the consequent effect on the school spirit—all operate to keep the field of operations within certain well defined limits. A study of the situation, however, reveals more and more each day the wisdom of passing the Non-High School Act. The hundreds of pupils in these schools are fast growing into thousands and there is an untold increase in high school interest over the state. Every boy and girl in the State of Illinois is entitled to a high school education, and the small two and three year high schools are bringing these advantages to them in increasing measure every year.

Possibilities of Music in the Small High School

J. Lawrence Erb

First, a word as to the part which music should play in any educational scheme. This is or should be conditioned by the part which it plays and should play in the life of the individual and the community,—a true test, I believe you will agree, for any element in the educational scheme. What, then, can *music* do, and should,—music do for the individual and society?

Beginning on the lowest plane, music properly taught has a value as a mental discipline of the highest order. Without almost absolute *precision*,—like Ivory soap, at least 99 44/100% pure,—music ceases to be music but becomes agony and torment or plain noise. The physician, they say, buries his mistakes. The musician advertises his, willy-nilly, to the whole assemblage. Consequently, music-study at once makes the mind more alert and the critical faculties (*self-critical*, too, be it said,) more keen,—for no person is so insensible to euphony that he will willingly endure ill-sounding music, even if he makes it himself.

Closely akin to this is the value of music in restoring the balance of nature in the direction of the relative use of the senses of sight and hearing. Naturally, the human being depends about as much on his ears as upon his eyes to keep him alive and to make him happy and efficient. But modern life and education have swung the balance far in the direction of the visual sense, so that a continuation of present conditions may eventually do to our sense of hearing what has already happened to our sense of smell,—and to our hair. Most students do not,—perhaps cannot,—hear. They use the eye-gate almost exclusively for receiving their impressions. No wonder the eyes are overstrained and the nervous-system upset. Music-study properly pursued relieves the strain and restores the proper balance,—at least in part,—and makes us more normal human beings.

Then the development which comes from the rapid coordination which is required in music performance results in a quick-wittedness which is surely of value in the present day strenuous existence. So I might go on and mention place after place where music-study, purely from the physical and intellectual side, is of high value,—but, as I said before, this is rather the lowest plane upon which it functions.

Music is an art. Zealots sometimes contend that it is also a science, but this is not true. There is a science of sound or acoustics upon which the art of music is based, but the case for music as a science is not worth defending, nor will it stand before any logical onslaught. But music as an art is the gift of the gods, the handmaiden of patriotism and religion, the language of the emotions, the most intimate and universal expression of the sense of beauty of which the human race is capable,—and the one and only form of art which is absolutely incapable of being prostituted to base or ignoble forms. Crude or

commonplace music may be and often is, but bad or degrading never. Even evil associations cannot permanently taint music, for like a bird unchained, it mounts at the slightest opportunity toward the skies.

Since music is an art, a medium of expression, a manifestation of the sense of beauty and inspiration, it follows necessarily that its place and treatment in the curriculum must be established with reference to its peculiar function rather than to the traditional educational processes which have been worked out largely on a purely intellectual basis. I am not afraid to take issue squarely at this point and to base the claims of music on its own right, not upon its similarity or dissimilarity to the other subjects in the curriculum. It is not necessary to stir up the old feud as between the heart and the head in education, it is enough simply to state that for thousands of years the deepest thinkers upon educational problems have accorded a high and often the highest place in education to art. In a new country like this where much that characterizes an older civilization is lacking, music is the one artistic activity which may flourish with reasonable hardiness in even the small community. Obviously, there is not yet the opportunity for art galleries of any value whatsoever, except in the larger and wealthier centers, nor may the drama be brought to our doors in the small community. Architecture, too, is conspicuous by its absence. It is therefore the high prerogative of music to supply this important leavening element in the education and life of the American people, to a degree that is even greater proportionately than in the older civilizations. For that reason educators should give serious thought to the proposition of music in its bearing toward the community as a whole, since the educational system of any town should prepare the citizen of that town for life and service within its borders. I shall therefore at all points link the community and its life with the schools and their activities. No discussion like this will get anywhere on any other basis.

The appeal of music is to the intellect and emotions through the sense of hearing. It is often called the language of the emotions. A language presupposes sufficient familiarity with the vocabulary so that the user may make himself intelligible and the hearer may understand. The trouble with the musical situation in the United States has been a Babel of musical voices and a corresponding lack of understanding and appreciation on the part of the public. It is as though one had been dropped in the midst of a foreign land where the alphabet is unfamiliar and the language equally so, and then asked to understand and appreciate and enjoy the literature of the country. The simile is laughable, yet that is what has happened musically in the United States. Our polyglot population and cosmopolitan point of view have poured in upon us the music of every people and nation, each with its partisans shrilly crying the part that it should play in American art. Not to enlarge upon this phase, it is sufficient to proclaim it and to recognize the disastrous results, musically, to our country. We have come to the point where our hearing has been so beset with the rival claims of the foreigners that we have lost all interest in our own artistic expression and have in bewilderment given up the problem of becoming acquainted with the musical literature of the world. The average American takes a sort of belligerent delight in the very cheap popular music of the day, as much as to say, "I like it, and I don't care whether it suits you or not." Toward the best music of the world, his attitude is one of frank and utter indifference, because, as he confesses, "It means nothing to me."

This condition points at once to the great problem in musical education before which all others pale to insignificance. The people of America must hear much more music and must hear it in sufficiently small doses, presented well enough to be attractive, and selected with sufficient care that the audience will not be overloaded. It is, of course, highly important that our children learn to read notes. Illiteracy is just as reprehensible in music as in literature; but, if it were necessary to sacrifice either, I should say that even before the teaching of notes should come the teaching of music itself, or what we often call Musical Appreciation, a term for which I have no particular fondness, and which, like

charity, has been made to cover a multitude of sins. Every school, beginning with the kindergarten, should have access daily to the hearing of good music properly selected for the grade where it is to be heard. Where performances can be arranged for by students or town's people, it is always best to have the human element. Lacking this, the talking-machine or the mechanical player are always satisfactory; but I should like to say right here that the talking machine, under any circumstances, should not monopolize the music making in any school. There are in every community, however small, some people with good voices capable of singing agreeably, and some of the people have learned to play an instrument successfully, and some of the people have learned to play and make their contribution to the musical life of the community. You see I am bearing in mind always the community life. Whether or not this music work should be made a so-called course with credit, I am not ready to contend. I should say rather that, since it is contrary to the state law to offer religious teaching in the schools, we might take the stand that the idealistic and inspirational elements which the religious instruction would impart, may be given a place by utilizing music as a daily general exercise. In this so-called appreciation scheme, I would include not only solo performance, but the preparation and performance of all kinds of musical ensembles from the duet up to the school chorus in which everybody sings. I should like to interpolate here just one remark about the phrase "in which every one sings," and the so-called monotone or mute who has been so much talked about in connection with group singing. He exists because the mental faculties have not been awakened and stimulated through the hearing of music; and it is my impression that to immerse him systematically in choral singing will make him sing eventually because he can not help himself.

This brings me to another point. The community singing which has been so stressed during the war, has taught us without a doubt that nothing is so quickly killed as group singing by the perpetual nagging, which we frequently mistake for teaching. The greatest chorus leaders in the United States, who have had a part in group singing, admit that it is very much more important that the singing be enthusiastic than that its expression in every case be agreeable. They are willing to trust the musical sense of the individual to remove the most crying defects, as the singing goes on. Singing as an emotional exercise, as a means of expression (and, be it said, as a means of expression by which the emotions may be safely allowed to give vent), is of such importance that it is a shame to stifle the instinct by too much ill-advised directing or teaching.

There is also a larger usefulness for the orchestras, glee clubs, and the like, which should in each case appear frequently before the student-body, either to lead group singing or to furnish set numbers. The stimulus given by the larger group of performers, as well as the opportunity for public appearance, will increase the interest and will in that way lead to a wider usefulness and a more universal participation and expression.

So far I have made no mention of the systematized courses; I have done this deliberately, because I believe the greatest usefulness of music is as a social asset rather than as an individual means of exploitation or even of making a livelihood. I believe that to a large extent in the small community at least, musical activities must be carried on by non-musicians, in the sense that a great many non-professionals and semi-professionals must do the bulk of the work under the guidance of a minimum number whose sole means of livelihood is music. The function of the school with regard to music does not end with the schoolroom, but must be extended into the church and social gatherings of all kinds, including fraternal orders and clubs, and most of all into every individual home within the community. The pitiful silence of many American homes would be intolerable if it were not for the fact that sooner or later most of us get out into the big world where music in one form or another makes its way into our lives. I am sure, personally, that many of the problems of the Amer-

ican homes and communities arise from the fact that they are not so attractive as they might be if the aid of music were invoked.

However, music demands performers and inevitably performers must be skilful if their work is to be satisfactory. It is just as much a function of the school to offer Music as it is to teach Manual Training, Physical Training, Domestic Science, or what not. I am aware that such a program as I am outlining would stagger any school system here represented if attempted at one fell swoop. Possibly you who are listening to me have already tired of the "impractical dreams" that I have brought before you. My answer is that I know of no community where there is not at present sufficient talent to carry on all of the work that I have outlined in the phase best adapted to that community at the present time, provided that public spirit is active among the leaders. There is plenty of amateur talent among the people, and the teachers will be eager to give assistance. The music teachers and the people who employ them are willing to work hand in hand with the school authorities if the school authorities will co-operate with them wherever necessary, so that eventually music may find its place in the curriculum. I have no doubt that, sooner or later, a number of school districts in this state will make provision for teaching music in all its branches in the school building, but I do not anticipate any sudden rush in this direction nor do I consider haste desirable. But I do ask their consideration wherever the music teachers are willing that some basis be established whereby music when properly taught shall be accepted as a reasonable part of the educational scheme, and shall be substituted for some other equally-important element. I am talking about what is generally known as the accrediting of outside music, a scheme which is feasible in every school in the state if the authorities are willing, and I am frank to say that so long as the bulk of the expense, or practically all of it, comes out of the pockets of the parents of the children interested, I cannot see any good reason why schools should wait. It seems to me "a dog in the manger" policy that music or anything else should be ruled out of the educational scheme under such conditions. I grant that the problem of organizing such a course demands a little time and attention, and there is a small amount of routine connected with its administration. But I insist that we have learned to our cost that our educational plan is not healthy and that we need music or some other spiritual element supplied, and it is therefore not a matter which we can dismiss on the basis of cost or bookkeeping when these are not excessive.

I have mentioned Sight Singing for the teaching of note reading; this should be required from every student in the schools. History of music and Harmony, too, are fine high school subjects and should as soon as practicable be included in the course on the same basis as all other high school subjects. These demand the services of a special teacher, as the local music teachers rarely have the training or facilities to teach them well.

I have left until last the discussion of the voice. With regard to the plant, I am one of those who believe that the schoolhouse should be the intellectual and artistic center of the community, and perhaps its social center as well, though I think that there are certain claims in this direction that the church may well maintain. In this regard I do not believe that the school system ever fulfils its purpose by working only with the children. It owes to the community as a whole a duty, which as a rule, it has not yet seen. The building should be available for concerts, lectures, and other entertainments which are open to the entire community, and the community should be stimulated to utilize the building as many evenings in the week as possible. As for equipment, a good piano, a talking machine of the less expensive sort, and a fair selection of records, with a library which need not at first number over a dozen well-selected volumes will make of many a desert a smiling oasis. And there is need, of course, of material for the teaching of reading, and also of some good songs for mass singing, and others for the chorus or quartet; but this material need not cost much money.

The most important factor in any educational system is the leader. In the musical realm, we call,—usually her,—the supervisor. I should like to call special attention to the word, supervisor. The special teacher who has charge of music work is too often somebody whose musical training is very much a side-line, whose knowledge of music is confined to a few piano and voice lessons, with some experience of chorus or choir. I need not impress upon you the futility of expecting good musical results from this sort of a teacher. The proverbial half loaf is infinitely better than no bread at all, but the unfairness of such a condition to all concerned should not be misunderstood. It is not fair in so highly specialized a subject to hire a teacher whose music study has been insufficient to make the teacher a leader in this very important direction. Music is either of great value to the community or it is a useless frill. The reason why it is a useless frill is often because the training of the teacher has been insufficient. A good music supervisor would be expected to do the specific musical work in the school which no one else is equipped to do; but there should be a sufficient leisure for the supervisor to direct other people, many of them not musicians at all, in carrying out the details of musical activity. The music supervisor should be selected as the potential leader of musical activities for the entire community, a sort of consulting engineer to whom the community may turn for the solution of music problems; a general, as it were, whose eye scans the entire campaign and lays out the entire plan, and then to a large extent leaves the details to others.

There is no doubt that if the community is to become musical, the development must be from within rather than without. That is, the individuals within the community must find musical expression for themselves as individuals, as well as in groups. Music in the schools should be so planned that this is possible. Such a plan demands the services of a person with expert training and vision. Fortunately the musician is idealistic and is usually of the type that is expressed in the phrase that "he will work his head off" in his enthusiasm for his art. Hence, given a proper educational equipment and the assurance that his work is sympathetically regarded, and he will dream dreams for the community which he serves and will labor earnestly to make his dreams realities.

I trust you will pardon the trend that these suggestions have taken. I have long since abandoned any policy of detailed discussion with regard to music in the schools. The schools exist for the community. It is neither wise nor right for one to attempt to lay down a program to be followed in detail for all schools. Even those apparently of the same type, have each certain local peculiarities which must modify the details. The schools exist for their community, and their first duty is toward their community. I have therefore attempted to present to you what I consider can be done and should be done for the small town and village and the rural community. Perhaps you think I have overshot the mark. If so I beg your indulgence. Nevertheless much experience with communities, rural as well as metropolitan, has taught me to believe that the human being is pretty much the same wherever you find him, and that his social needs differ little, no matter what his environment. The program that I have outlined is one that can be carried out with a minimum amount of equipment and demands scarcely anything which is not already to be found in every school-building, with the possible exception of a talking-machine and a few selected books. I believe in music in America because I want to see America a great nation as well as a big one, and I want to see the ideal enter into every phase of her development. I do not believe that without spiritualizing elements in education she can ever fulfil her mission; and I believe that music preeminently furnishes this element in a practical and acceptable form.

A Recognized High School

John Calvin Hanna, State Supervisor of High Schools

This term illustrates a special use of a common word. A recognized authority on football is a person whose experience and knowledge of the game entitles him to be looked upon, and who is looked upon according to the judgment of people in general, as an authority on football.

A recognized high school, however, is not merely a school which is looked upon by people generally as a high school.

The term has come to be limited in Illinois to a special signification.

The term "recognized high school" was first introduced into the state legislation in 1913, and the statute defines a recognized high school wherever the term is used in the laws of Illinois as "any public high school providing a course of two or more years of work approved by the Superintendent of Public Instruction."

This statute and the other statutes providing that under certain conditions the tuition is to be paid, out of public funds, of pupils who attend a recognized high school, and that the graduates of recognized high schools have certain rights and privileges regarding teachers' certificates not belonging to other persons,—these several sections of the school law have forced upon the office of the Superintendent of Public Instruction the following duties:

(1) The determining of the requirements which shall be enforced for a recognized high school.

(2) The examination of the high schools of the state to determine which of them conform to these requirements.

(3) The issuing of certificates of recognition to such schools as meet these requirements.

(4) The inspection, from time to time, of these schools to determine their fidelity to these requirements.

The task is a very large one. There are now over eight hundred schools in the state calling themselves high schools. Besides, there is some instruction, in studies usually belonging to the courses taught in high schools, which is given in one-teacher rural schools where one teacher is thus called upon to teach everything from the alphabet to algebra.

This practice is prevalent in several counties of central Illinois and is slowly passing away as the operation of the state laws becomes more general which provide other and better means for furnishing secondary instruction to the youth in rural districts.

The standards to be established had to be provided for four year high schools—not only for the great metropolitan schools enrolling a thousand pupils and more, but for the small high school with an enrollment of less than one hundred; not only for those living in a large city, but for those in smaller cities and for those in the villages and for those in strictly rural communities; not only for those few schools where most of the graduates are looking forward to training in a university or college or normal school, but for those whose formal education is to cease when the high school diploma is received; not only for those attending schools where a wide range of electives can be offered and where a rich and varied equipment for different lines of work is possible, but also for those whose secondary education must be carried on in a school where the course of study is simple in its demands for special equipment and must be fixed and prescribed for all students; not only in those communities where what is commonly referred to as a classical or literary curriculum is preferred, but in those where a vocational or prevocational grouping of studies is looked upon as absolutely necessary; not only in those districts where the annual income for high school purposes under the law may be as much as \$200,000 a year, but also in those districts where an income for high school purposes can not exceed \$2,000 a year. Furthermore, requirements had to be set up for two year and three year high schools which are always small.

It is not a simple nor an easy task, nor has it been completely nor perfectly done. It is hoped, however, that an impartial investigation would demonstrate that the broad lines have been laid down and that many communities have been helped to do well, or at least better than ever before, the work of providing their children with what actually deserves in the broadest sense to be called a recognized high school.

Questions of organizing districts, providing for the financing of them, planning and constructing of buildings so as to provide safe, sanitary and adequate rooms and equipment for the size of the school and the work undertaken, the organization of the year's work and the daily schedule, employment of qualified teachers and supervisory officers, selection and assignment of courses of study—all these enter into the work of this field.

And the field is much larger, as any thoughtful student of affairs can see, than the strength and time of one official can cover. It is gratifying to announce that after five and a half years of pioneer work done by one man, with the strong and generous backing of the State Superintendent and the incidental help wherever possible of his associates, with the friendly and very helpful assistance of county superintendents of schools (without which indeed much could never have been accomplished), with the loyal and ready co-operation generally of village principals and their school boards, and indeed of the officials and teachers in many of the larger schools—after this pioneer work, the legislature has provided a colleague, Mr. Harry M. Thrasher, whom many of you know and whose personality and experience qualify him to take up his share of this important work. It is also true that the supervisors of vocational education, under the control of the State Board for Vocational Education and under the operation of the Smith-Hughes bill, are doing in some lines work connected with this general task of supervising high schools.

There will also be some assistance rendered this year, both inside and outside of the office, by another gentleman under the direction of the State Superintendent, Mr. Charles H. Saylor.

It is important to bear in mind that no money can be paid out of public funds as tuition for any pupil in any public high school in the state, however good work it is doing, unless that school holds a certificate of recognition issued from the office of the Superintendent of Public Instruction. It is worth while then for every superintendent and principal to look around and see if his school has such a certificate, which, of course, should be framed and hung in a conspicuous place.

This recognition will make a difference in most schools of a considerable amount in the annual income of the school. Any school, therefore, which ignores or neglects the requirements of the Superintendent of Public Instruction for recognized high schools and which presents to the non-high school board of the county a bill for tuition is attempting to get money under false pretences, and is likely to have its certificate of recognition revoked.

For example, if your school has an insufficient number of teachers, or teachers not properly qualified, or if your organization provides for a short year or a short recitation period, or an insufficient amount of work required for a diploma, or if your equipment in books, maps and apparatus is not up to the published requirements, or if your building is below the specifications published in the matter of safety from fire, in heating, lighting, ventilation, water supply, toilets—then your school board has no right to any of the special high school tuition fund raised by public taxation and in the hands of the non-high school board of the county.

There is no need here and no time to state these requirements. They are published and available to any one upon application.

Some four year high schools having certificates heretofore issued have fallen below or are below the requirements in some particulars. These are now this year all to be brought to account and required to correct these deficiencies or lose their certificates. I am sure from what I have seen that in nearly all

cases these schools will respond loyally to this demand. In no instance has there been either a refusal or a hostile attitude displayed.

The recognized three year and recognized two year high schools have an even more vital relation to the matter of recognition because under the terms of the statutes enacted in 1917, they are entitled to receive, for every pupil enrolled, tuition from the non-high school board—practically the entire burden of cost of maintaining their high schools in those communities being thus borne by a general tax levied upon all the non-high school territory of the county within which such schools are maintained.

It is the hope and the aim of the State Superintendent's office to bring about a condition of things so that the pupils in these two year and three year schools may have an education provided at home for half or three fourths of a full four year high school course, such in quantity and quality that they shall deserve and receive full credit for eight units, if from a two year school, and for twelve units if from a three year school, if they go to any four year high school to complete their work.

And this is not an impossibility as has been demonstrated in thousands of instances. There is no desire on the part of the supervisors of high schools to force upon the large schools pupils whose preparation is distinctly inferior. These schools are asked to *try* them—give them a chance. If they really prove in any instance (coming from any two year or three year school) unfitted for the third year or the fourth year work, then it is the right and duty of the head of that four year school to report the case with particulars to the supervisor of high schools, who will make a prompt investigation of the smaller school and if the cause for poor results is found, to have that cause removed or else withdraw the certificate of that school.

We are refusing to give recognition to a two year high school applying for recognition unless there is promise of an increase of about ten or more pupils in each entering class.

We absolutely enforce the purchase of a real working library—prescribed by the state—a set of historical wall maps for each history course taught, and a supply of apparatus—also prescribed—for each science course taught.

We absolutely exclude such subjects as American history, physics, and economics for the first two years. We discourage the teaching of physics in the third year of these schools and also the teaching of botany and zoology in the second year unless there is special reason for allowing it.

We control alternation very strictly. We require, except in special cases, that there shall be three or more teachers provided for the lower eight grades.

This is not a list of requirements. It is a selection of a few requirements to illustrate the standards and the strictness of their enforcement.

Another serious disadvantage to any high school not holding a certificate of recognition is that its graduates may not be admitted to an examination for any grade of teacher's certificate. A neglect on the part of any school to conform to the requirements and to secure a certificate of recognition may work hardship to young people who in all ignorance and good faith are attending a high school that is not recognized. They can not even be admitted to the examination.

A third advantage that belongs to the graduates of regularly recognized four year high schools is that these schools have by agreement the accrediting relation with all of the following higher institutions of learning:—

Armour Institute of Technology	Eureka College
Augustana College	Greenville College
Aurora College	Hedding Collège
Blackburn College	Illinois College
Bradley Polytechnic Institute	Illinois State Normal University
Carthage College	Illinois Wesleyan University
De Paul University	Illinois Woman's College
Eastern Illinois State Normal School	James Millikin University

Knox College
 Lake Forest College
 Lewis Institute
 Lincoln College
 Lombard College
 Loyola College
 McKendree College
 Monmouth College
 Mount Morris College
 Northern Illinois State Normal School
 Northwestern College

Rockford College
 Northwestern University
 Shurtleff College
 Southern Illinois State Normal University
 St. Viator College
 University of Chicago
 Western Illinois State Normal School
 Wheaton College
 William and Vashti College

The term "accredited school" used generally and loosely as it often is, has no significance unless followed by the name of the higher institution of learning to which the the high school is accredited. These institutions just named have, each for itself, formally accepted the standards put forth by the Superintendent of Public Instruction as sufficient to entitle schools holding that certificate to the accrediting relation with those institutions, the only proviso being that the candidates, of course, shall offer the subjects prescribed for entrance to the higher institutions, which is, of course, no more than they require of all candidates from any school.

And this brings us up to the matter of "probationary" recognition. What is probationary recognition? Probationary recognition is the recognition granted to such schools as are newly started and which may thus have temporarily the statutory advantage accruing to recognized high schools until a trial shall demonstrate whether they are going to continue to operate with the spirit of promise at first indicated. For this reason, such recognition is not only subject to withdrawal at any time when it appears that the school is failing to conform to promises made or is failing to conduct such a school and produce such graduates as a recognition would guarantee—not only this, but in all such cases wherever there is a change in the head of the school, the recognition expires automatically and a special application for renewal of recognition must be made and approved.

A new and revised list of the recognized high schools in any county is thus furnished by the Superintendent of Public Instruction every year for the non-high school board. Furthermore, besides those new schools placed thus on trial and so given probationary recognition with the hope of being transferred later to the regular list, there are many schools whose status must, in all probability, always be "probationary," for the very good reason that the enrollment is small and the question of a sufficient annual increment therefore uncertain, and for the further reason that while a change in the head of any school system is a serious and critical matter, it is vitally so in a very small school system where there are employed for all grades not more than three, four, five or six teachers, including the principal. There might be a live, promising school in such a small system and this life and promise might be due in a very large measure to the personality, ambition, intelligence and devotion of the principal. If he should be succeeded by one seriously lacking in one or more of these qualifications, the whole institution might go to pieces in a few months and the deserving of a place in a list of recognized high schools vanish entirely—a result impossible in so short a time in any large and well established system of schools.

The legal advantages—aside from the temporary character of the recognition—are the same for schools having probationary recognition as for those having "regular" recognition—the rights concerning tuition and teachers' certificates.

The accrediting privilege to the higher institutions of learning for four year high schools is not guaranteed to four year high schools having probationary

recognition, though of course it may be and is now and then granted to some particular high school by some particular college.

The ideal arrangement possible at present among four year, three year and two year recognized high schools is a county agreement based upon an intelligent study of the situation on the part of the authorities of all the high schools in the county, both great and small, under the general direction of the county superintendent and with the assistance of the supervisor of the schools, whereby on the one hand the courses of study in the smaller schools shall be adapted so as not to embarrass those entering the larger schools to complete their courses, as well as the local needs and preferences and the requirements of the State Superintendent, and whereby on the other hand the larger schools shall agree to accept those completing a two year or a three year course in recognized schools with full credit or at least with full probationary credit for what they have done. Such an arrangement has been effected in a number of counties and is entirely possible in any county.

It is the hope this year, moreover, to progress so far in the continued inspection of the four year high schools that it may at least be possible without reservation to recommend that all such regularly recognized four year high schools should be received into the accrediting relation, not only as they are now by the University of Chicago and the other institutions named above, but also by the State University.

Meaning of an Accredited High School,—Advantages and Disadvantages

H. A. Hollister, High School Visitor

The accrediting of high schools was undertaken at an early date in the history of the University. The purpose of such accrediting was to save the pupils the cost of entrance examinations. For a time entrance examinations were conducted through the offices of County Superintendents; but it soon became evident that such a scheme, involving the services of so many persons, was cumbersome and not always reliable.

To hold all examinations at the University, or at different points in the state under university supervision, would incur a vast total expense to the people of the state. Besides the feeling had very early developed that a set examination covering the entire high-school curriculum was not always a fair test of a student's ability to do university work.

For these reasons the certificating system was adopted, and has now been in operation for about forty years. Not until twenty-three years ago, however, was it found advisable to employ a high-school visitor. The first visitor was Mr. McGilvary who served three years. He was succeeded by Stratton D. Brooks who also served three years. Mr. Brooks was succeeded by the present incumbent, who began his eighteenth year of service on armistice day, Nov. 11, '19.

The objective of the Visitor in going to a school is to seek to determine the efficiency of the work judged at the level of good average possibilities of high-school attainment. Three very fundamental factors enter into this estimate: (1) The physical equipment, including building, grounds, fixtures, apparatus and library equipment. These again are judged in relation to what the school is undertaking to do. (2) The quality of instruction as determined by the teacher's preparation and ability to instruct. (3) The spirit of the school as shown by the attitude of the pupils towards their work and of pupils and teachers towards each other.

When a school is once accredited it is to be visited each first, second or third year following for rechecking and extension of credit. All graduates of an accredited school able to present fifteen units of work acceptable to the Uni-

versity may enter the University on certification of this fact by the principal or superintendent without examination.

Thus a convenient, inexpensive, and reasonably satisfactory method is provided for university entrance. The standards set up, except a few general limitations believed to be to the interests of student in selecting a particular college course, are those which are generally recognized as making for efficiency. The records show that from the beginning entrance requirements of the University were based upon what the high schools were prepared to teach and were including in their courses of study.

A very distinct advantage of such accrediting is that it serves also as a means of conveying to high schools much expert advice on problems of instruction, administration and equipment. The relation between high schools and University is purely voluntary, the high school always taking the initiative. Thus there is no opportunity for petty politics to enter in. The relationship naturally begets good-will and respect on either side. The office is never made use of as a means of propaganda with a view to securing the attendance at the University of high-school graduates.

In brief we may say that the relationship is not unlike that of the elementary school to the high school under common supervision. By such a method it has been possible in Illinois greatly to increase both the number of high schools and the efficiency of high-school education.

The disadvantages of the system may be considered from the standpoints of the two institutions concerned. For the University, of course, the cost of the service is added to the annual budget, thus costing the people much less in the aggregate, but transferring the cost to that of University support. In view of the fact that the standards thus established have long been accepted by other standard institutions the service thus rendered is very general indeed. This is especially true since the University is called upon to bear the expenses, chiefly, of North Central Accrediting of Illinois high schools.

Another disadvantage, and one growing out of the voluntary character of this association, is the difficulty and consequent added cost of securing needed reports.

The fact that the base line of efficiency sought in our accrediting is that of a fair average high school attainment in Illinois is another disadvantage in that it inevitably brings to the University a large number of students very poorly prepared along certain lines for the work they undertake in college. The result is a great waste of resources on the part of the University. It is the reduction of this waste which has consumed much of the time and energy of the High School Visitor's office. This has come through the innumerable advisory visits and meetings with boards and people; through the editing and publication of numerous bulletins; and through the organization and conduct of this Conference.

The following suggestions are offered as to legal points involved:

1. That the definition of a recognized high school should not include a modified type as a probationarily recognized school.
2. That the payment of tuition for attendance at such modified types is pernicious and should not be permitted.
3. That all such tuition money paid to district or high school boards should be applied exclusively toward the support of the high school receiving such tuition.
4. That the privileges granted to four year high schools or their graduates should be permitted only in case of such four year high schools as are found, on careful inspection, to comply with all the published standards for fully recognized high schools.

The situation is not made easier by the existence of double standards for recognition and accrediting.

There is, of course, that oft referred to bugbear of special requirements which limit the freedom of high schools. This is the only disadvantage from the standpoint of the high schools except, again, the double standard above referred to. (For further consideration of this point see High School Visitor's Report for 1918-19, pp. 43-45.)

Advisability of a Common Standard for State Recognition and for University Accrediting

Theo. C. Moore, County Superintendent, Pike County

In determining as to whether or not it would be advisable to have a common standard for state recognition and for university accrediting of high schools, we should study carefully the conditions that exist under the two standards that now prevail.

Each system has been defined and fully explained to us by the gentlemen who have just spoken. The requirements of each system are well understood by all who have taken time to investigate. A careful reading of the published list of requirements will reveal no essential differences. If then a difference exists between the two systems it must be in their operation.

Some differences in the standards are recognized by a few of the colleges and higher institutions of learning in as much as they will not receive without an examination the graduates of a high school that is merely recognized by the state department but will receive graduates of a high school accredited by the university.

Much confusion arises because the two standards are not fully understood by the people. School authorities of some recognized high schools have lead their graduates to believe that they could enter any college of the middle west but later were refused entrance at the university, without an examination.

The plan of state recognition accepts all the work done in a high school or none. By this method much poor work is covered up and accepted, as few of the smaller high schools can secure a corps of teachers that are well prepared for all the work they are endeavoring to do. The university accepts only the work that is up to the standard but will refuse to accredit the subjects that are not well taught or for which the school is not well equipped. When it is found that enough required subjects for admission to the university are acceptable the school is placed on the accredited list by the university. This plan will admit only the strong work but will refuse to accept work that is below the standard.

Probationary recognition of schools, while planned with a good purpose and perhaps the best thing that could have been devised, places the school so receiving it in a position to demand all the rights and enjoy all the privileges as the one having regular recognition, though the fact that they are given only probationary recognition is evidence of the fact that the school is doing work that is not up to the required standard. Often such a school does not have the required number of teachers and the equipment is not sufficient for good work.

Public sentiment requires the four year recognized high school to accept the work of a smaller high school that is recognized by the state department even though this work may not be as good as done in the four year school. The university requires the accredited high school to see that such accepted work is equal to that required by the university. This places the accredited schools in an uncertain position in as much as they must account to two authorities.

There are seventeen high schools in the county I represent. Eight of these are four-year high schools; five are three-year high schools; and four are two-year high schools.

Four of the eight four-year high schools are accredited at the university. All have state recognition. Since university accrediting is a thing to be desired why are not the other four accredited? As far as the course of study is concerned they are all offering subjects for university entrance. I am sure that two of the four would meet the requirements of the university, as far as buildings are concerned. As to the equipment in the way of libraries and laboratories I am sure that two would meet the requirements if the demand were made. As to the preparation of teachers, three are employing teachers with only second grade county certificates. It would seem that they were falling short in employing a lower grade of teachers and this is their chief weakness.

What these four-year high schools indicate as to standard would also be found in the two and three year high schools, and perhaps to a greater extent.

We are apt to find less efficiency in a three-year high school than in the others. The three-year high school too often exists because of the ambition of a principal to make a record for himself by extending the course of study, or by the desire of the community to share in the tuition to a greater extent. This desire leads them to undertake something they can not carry out successfully. The three-year high schools need careful attention and perhaps should not be permitted to exist. In other words we should have either two-year high schools or four-year high schools.

It has been my observation that the school accredited at the university is more careful about the qualification of its teachers, equipment of the school, building and etc. It is not a question of getting by but a question of measuring up to the high standard approved by the university.

I must not be understood to criticize the State Department in the matter. The work has been handled in an able manner by this department. Too much credit can not be given Mr. Hanna for the excellent work he has accomplished. It has been the work of this department to nurse and care for the weaker high schools of the state until they could get their bearing and develop into strong schools. Under its aid and encouragement the high schools of the state have made wonderful progress. Many weak schools have made strong schools. High schools have multiplied in number until every organized community offers high school work to its boys and girls.

Has not the time arrived when every community ambitious enough to have a standard school should be required to measure up to the requirements for such a school? Has not the day of probation ended? Should not the University and State Department get together and each be willing to accept the work of the other? The terms "an accredited high school" and a "recognized high school" should have the same meaning and value. A graduate of a recognized high school should be admitted to the university without an examination.

I am sure that we are all ready for a common standard.

If such a common standard were established it must be a system that is entirely removed from any danger of political influence and one that recognizes the State Department as the head of the great educational system of our state.

Some states have a common standard. Perhaps Kansas presents the best one. It provides for a State Board of Education which is composed of the state superintendent of public instruction, the chancellor of the State University, the president of the State Agriculture school, the president of the Kansas Normal school, and three other persons appointed by the governor.

This Board of Education has exclusive and sole authority to define official standards of excellency in all matters relating to the administration, course of study and instruction in rural schools, graded schools, and high schools, and to accredit those schools in which the specified standards are maintained and grant accredited schools appropriate certificates or other evidence of approval.

Any person who shall complete a four-year course of study in any high school accredited by the State Board of Education shall be entitled to admission to the freshman class of the State University, the State Agriculture college or any Normal school on presenting a statement of his high school work signed by the principal.

Advisability of a Common Standard **Supt. T. W. Callihan, Galesburg**

We have just listened to a detailed explanation of what a recognized High School is; also have had pointed out to us the advantages and disadvantages of an accredited High School, and now it becomes my duty to discuss the advisability of a Common Standard for State Recognition and University Accrediting.

We are forced to the conclusion in the beginning that we have at this time two Standards. We have some schools that are Recognized but not Accredited, and it certainly seems that if there is any advantage in being both recognized and accredited then all schools that are recognized should be accredited.

It seems to me in discussing this proposition as to whether or not we shall have a common standard, that we must go back beyond the immediate question and see what we mean by a standard and further determine whether or not we want two standards in Secondary Education, which is really what the above amounts to.

Some will no doubt say that we must have two standards, one for the large school, the other for the small. Personally the writer does not believe that we should. While he will admit that the course of study cannot be the same in all High Schools, certain communities want subjects applying to their particular localities. For example, rural High Schools will emphasize Agriculture, Home Economics and the like, while factory towns need courses in shop mechanics, etc., yet the fundamental idea of education must be the same in both.

The educated man or woman is not necessarily the one who knows the most Latin, French, Mathematics, Science, etc., but is the one, as Dr. Bobbitt says, "who can perform efficiently the labors of his calling; who can effectively co-operate with his fellows in social and civic affairs; who can keep his bodily powers at a high level of efficiency; who can effectively bring his children to full-orbed manhood and womanhood; and who can carry on all his social relations with his fellows in an agreeable and an effective manner."

When we stop to think that not more than 33⅓% of all the children who enter the public schools ever attend higher institutions of learning, both small and large schools must be made to realize the full significance of the problem before them.

We have just closed the greatest war in history. A war which was perpetrated by a nation, Germany, which has a double standard in education. There we find the Folke Schule for the masses and the Real Schule for the nobility. Certainly we never want the time to come when we will make such a distinction, or any other distinction, between the small schools and the large schools in the State of Illinois.

Our legislators have passed and are passing laws which make it possible for communities to get together and establish schools. They will be properly financed so that they may have as good teachers as any larger school. Such subjects can be taught and taught efficiently as will contribute to the general education of the individual.

It is right and proper that our great State University should have, and make certain definite requirements of all students expecting to enter; should have definite requirements leading up to every course which the student expects

to pursue in that University, but after those few definite requirements are met, then any work which is taught in an efficient manner and which has in it matters of general educational value, should, in the opinion of the writer, be accredited.

The job of the public school today is not primarily that of preparing boys and girls for higher institutions of learning; our high schools can no longer be academies; they must prepare boys and girls for life and for citizenship in a democracy. The fact that two-thirds of them go no further will help emphasize this last statement.

In view of the above, and further argument which might be advanced it would seem the question of having a common standard is a very vital one, and one that goes back further than simply recognizing the school as a whole.

The common standard first of all that must be set is the standard unit of work in any subject of educational value, and we believe the time has come when the schoolmen of the State must get together and determine this standard. It is not a thing that University professors, who are not actively in the field at work with the boys and girls, can or should set for us.

It is not the purpose of this paper or the desire of the writer to criticise present methods of recognizing or accrediting schools. He is simply anxious to have this problem placed before the school people and get it settled. Why recognize and accredit subjects like English, Latin, Algebra, History, etc., and not accredit General Science, Telegraphy, Radio, Commercial Arithmetic, etc.? If those last mentioned have educational value they should be accredited, otherwise they should be dropped out of our curriculum.

Many other arguments might be advanced in favor of a single standard. The other two speakers will no doubt mention the injury done to pupils, often times, who go from a recognized school to an accredited school to finish their training; will no doubt speak of the inefficient training which, while not general, is somewhat common, that is given in some of the small two-year recognized High Schools; will no doubt say that it is not just for any school to be allowed to collect tuition, when they are not doing work equal to the accredited school. But after all the arguments have been advanced for the common standard, still we will not get it until the school-men get together and adopt a common standard of work, or unit of work, for every subject offered in our curriculum. When this standard is determined then every school that is recognized should be accredited.

7. DOMESTIC SCIENCE SECTION

The Section was called to order by Miss Isabel Bevier, Director of Home Economics of the University of Illinois. At the close of her opening remarks she asked the teachers to keep before the minds of the High School girls the fact that High School Physics is a prerequisite for the Home Economics course at the University. The business of the Section consisted of the election of two members of the executive committee to fill the places of Miss Helen Murphy, Decatur, and Miss Kathleen Gaynor, La Salle, whose terms of office had expired. Miss Murphy and Miss Gaynor were re-elected for terms of three years.

The changes in the syllabus recommended by the executive committee were also adopted by the Section. Copies of the syllabus are obtained from the office of Professor H. A. Hollister, High School Visitor, or from the Home Economics Department of the University.

Report of Executive Committee

"Last year at one of the evening meetings of the Conference, Dean Charters of the College of Education gave an address on the Readjustment of High School Curricula. At that time he suggested that a committee be appointed to investigate the situation. This plan was adopted by the Conference and the following committee, called a steering committee, was chosen:

Chairman, Mr. R. L. Sandwick, Principal of the Deerfield-Shields School at Highland Park.

Mr. R. O. Stoops, Superintendent of the Joliet Schools.

Mr. H. G. Schmidt, Principal of Belleville High School.

Mr. W. W. Charters, Dean of the College of Education, University of Illinois.

In January, this committee requested the Home Economics Section of the Conference to appoint one or more of its members to serve with this committee and to make a report to you this year. You are asked to suggest problems for investigation and study for the next and succeeding years. Miss Bertha Case of Peoria, a former member of the Executive Committee, and Miss Helen Murphy, a present member, of Decatur, were appointed to represent us. As Miss Case has not been well enough to undertake any extra work Miss Murphy has represented the section alone and will give her report this morning.

In arranging the program for this meeting the committee has planned as usual to give time for a discussion of all three courses. There has been difficulty this year, due to the fact that there have been so many changes among the Home Economics teachers throughout the state, many upon whom we have depended having gone into war work or to other positions. There has been a splendid response from those who are still with us and from the new teachers. Many have written in, suggesting topics that they would like brought up, questions they wish to ask, more than one saying that now as never before there is need of help. The committee members would like to ask that if any of you know of especially successful or interesting work that is being done, you bring it to their attention in order to give a place to a report of it on the program.

Professor Hollister has asked that this section consider the proposition for next year of dividing the program for a *part of the day* in order to bring about freer discussion. For example there might be one section meeting to discuss the food course and another the clothing; or the same program might be held in two or three sections. He feels that too few have the opportunity to take part and discussion by all is the object of the whole Conference.

The report closed with a reading of Professor Hollister's message to the sections.

The report was accepted and the revision of the High School Syllabus for Domestic Science was taken up. The members voted to accept the additions which have been made to it by the members of the Executive Committee. There was considerable discussion on the subject of having a separate day for recitation lessons. Under the Smith-Hughes directions the discussions are to be carried on along with the laboratory lessons as occasion requires. It was the opinion of the majority of the teachers that better results are obtained by having the separate lessons.

Miss Murphy gave the following report of the work of the Committee on Curricula Reconstruction.

A meeting was called in May, 1919, by the chairman, Mr. Sandwick of Highland Park, each section of the Conference being represented. In Home Economics, the reconstruction calls for two things: the recognition of the weak points in our original course and the expansion of our work to accommodate increased demands. Perhaps I should mention at this time some of the aims of the Home Economics work which are, stated briefly:

To create a practical interest in the activities of the home.

To make the girl more efficient in the duties of housekeeper and more able to cope with the problems of every day life.

To train in habits of cleanliness and order.

To give a knowledge of the needs of the body and of the supply of those needs.

To teach the planning, calculating of costs and serving of meals.

To teach the making and care of the family clothing and of all household furnishings.

To train in seeing everything in its relationship to cause and effect.

Within the past three or four years many changes have taken place in our work due largely to the war which has been followed by the shortage of food, fuel and clothing. Out of it has come the big problem expressed by "High Cost of Living." We must expand our courses to meet such a condition. I should like to quote a paragraph from an article by Miss Alice Ravenhill published in the last number of the *Journal of Home Economics*.

"The whole conception of Home Economics must be expanded from that of cooking, sewing, and cleaning—important as it is—into a realization of its actual scope, the right care and conduct of human life in the home. Its details of essential application must be set in a broad frame of human needs; the right of democracy must be more closely and continuously linked with its equally weighted responsibilities."

At the meeting of the Committee the following aims were emphasized as applying to all courses:

The promotion of health.
 The right use of leisure.
 The development of ethical character.
 The development of citizenship.

I wish to report on two new courses that have been planned for next year. Miss Frake of the Parker High School, Chicago, writes:

"You may be interested in knowing that at the recent meeting at Lake View of all the Household Art and Science high school teachers, we passed a motion to introduce a new five-period course on the Home for freshmen girls, to take the place of a freshmen science course. The new course is to embody a summarizing of courses taught in the elementary school."

As an expansion of our work in the Decatur High School, we shall introduce a course in hygiene to begin in February which will be open to juniors and seniors. It will be a one-hour course of eighteen weeks and will consist of lectures in charge of the teachers of physical training, physiology, and home economics. Some of the lectures will be given by the City Health Physician, the School Nurse, and the Superintendent of the County Hospital. The subjects discussed will be sanitation, personal hygiene, hygiene of clothing, nutrition, invalid diet, food study in relation to meal serving and sex hygiene.

In reconstructing our courses we must keep in mind the occupations of the household in which the efficient home maker must be a reasonably skilled worker and the fact that home making is also a social and business enterprise. Of the occupations there is first, that of *managing* which includes the responsibility for the character of the home, the standard of living, the preservation of health, the direction of the education of the children, the direction of social activities and of the budget of family expenditures; second, *general housekeeping* which includes the care of the house and equipment and the preparation and serving of food; third, *sewing* in the care, repair and remaking of garments; fourth, *caring for children*; and fifth, *practical nursing*. In the Home Economics Courses we can accept and aim for the objectives as recommended by Mr. Sandwick, chairman of the Committee on Curriculum Reconstruction.

A number of topics came up for discussion in the Round Table on Problems in the Food Work conducted by Miss Helen Bishop. The most important were the following:

The reconstruction of the Home Economics Kitchen.
 Large Quantity Cooking.
 Home Projects.

It was shown that the unit arrangement of desks is more like home conditions and better adapted for cooperative work. With the hollow square plan the teacher must take more steps unless she remains within the square where she cannot look at the work of the pupils from their

perspective. Many of the hollow squares now existing could be easily broken up into the other plan.

Many teachers reported progress in developing a plan to give large quantity cooking by having dishes prepared for the cafeterias, by bringing materials from their homes, by working in groups to develop leadership and cooperation. Miss Goodspeed told of a device carried on by groups, each having a leader to direct the work and at the end judging the result of each group by the following score card:

Groups	Time for Mixing	Quality of Baking	No. of Dishes Used	Time for Cleaning	Product
I					
II					
III					
IV					

A report on the amount of money now being allowed for lessons showed that the average was five or six cents per pupil.

The discussion of Textile problems followed and showed that many teachers are working in every way to utilize materials that have been used, by urging the pupils not to buy new for their problems and by making children's clothing. The latter may be for children in the pupils' families or for the charity work of the town. Various means were reported for obtaining samples of textiles now that materials are so expensive.

At the opening of the afternoon session Miss Stern, chairman of the nominating committee, reported that Miss Kathleen Gaynor and Miss Helen Murphy were selected to succeed themselves as members of the executive committee. The section voted to accept this report.

The address on The Budget as a Basis for the Clothing Work by Miss Helen Goodspeed, State Supervisor of Domestic Science in Wisconsin, was as follows:

"The Home Economics teachers must get in line to overhaul the methods, re-state the aims and evaluate the results accomplished. The Committee on Research in the study of aims gives the following report on the order of their emphasis as expressed in literature: Information, Skills, General related material, problem solving. The order of the present day: Skills, information, general related material, problem solving. The order and aims should be:

Training for active membership in the community.

Training in power to solve problems.

Training and appreciation of phases of home making.

Training in skill.

In every lesson I observe I look for something more vital to the girl's life in the community than the mere *accomplishment* of a *cooking or sewing process*. Is the socializing or democratizing aim provided for,—training in good team work—for leadership? Are vital *social* problems discussed? Are the students thinking or is the teacher thinking for them? Is the students' power to judge relative values challenged again and again? Is the acquiring of skills given its proper place in the minds of teachers and students? I have digressed but to the end that we may understand one another better.

The teaching of the budget and many other important phases in the ordinary run of high school are crowded out because of the placing of emphasis on acquiring skills both in Cooking and Sewing. They tell me there is no time for much of that sort of thing. Only the other day a teacher said "I feel that my job *first* is to make these girls good cooks and able seamstresses." I usually answer this argument with a question put to the teacher. "Did you *become* an able cook or seamstress in the laboratory or in the home environment where you practiced these processes under the natural home conditions?" I believe that when all is said and done we will admit that we acquire skill as such not in the laboratory but in the home. Then I suggest a shifting of emphasis to some of the more vital problems which are not so easily practiced in the home and which need constant stimulation from outside to bring about any practice at all. In order to lessen the time given to the acquiring of skill in the class room the teacher will have to study the problem of home project work and see that these *skills* are acquired in the home environment.

I have tried to answer the argument of "lack of time" and I should like to touch upon the subject of "lack of interest" on the part of teacher, which reduces time spent on the budget to one or two lessons in those classes in which it is considered at all. Most teachers shy clear of it, because first and foremost they have never *successfully* applied the principle of budgeting to their personal business affairs, hence unconsciously in their teaching they give it a minimum emphasis. Many of them teach it as it was given to them in College or Normal school as we teach the *calorie* and a great deal of our deitetics work,—considering it in a general way.

A University teacher asked me how to make a group of practice teachers appreciate the value of knowing the 100-calorie portions so that they would remember them. I said, "Have *you* worked out a way by which you *use* this knowledge in your own diet from day to day and week to week? If so, *that* is the way to interest them." I could note illustration after illustration of principles which we teach as being good for the other fellow but which we *do not practice ourselves*.

Nothing is easier or more interesting to teach than the *budget* if you consistently budget your own salary. So that my most important thought is: Begin budget teaching by working out a practical simple

method of budgeting your own salary and manage your finances consistently from this point of view.

My experience in talking and teaching the Budget leads me to believe that to be successful to any great degree we must start this work at an early age. It is slow work with women in the home to change a point of view. It too often appears to them as complicated, requiring an undue amount of time, and difficult to carry out with the ordinary run of men. Most women have a horror of accounts which must *balance*. *Balance* is the thing that frightens them. My experience was with a child, and that is why I think we should start this work early.

A lesson similar to the one in Suggested Lesson Plans* can be given urging girls to ask for allowances at home, organizing a debate to be given in class on this subject, encouraging the writing of short articles which set forth the big arguments for allowances. Some of these could be printed in the local newspaper and so put before the public. If the work is being given for the first time in the eighth or ninth grade, go through the same procedure. Afterwards personal accounts can be started and later the class can work out the budget for the family. "What proportion of the family income is *she* (the pupil) spending?" Put this to her as a personal problem not for class discussion. Find the *average* salary in the town and work out an average budget. If the work has been started in the seventh grade, the family budget can be taken up in the eighth grade *after the personal budget*. There is very little motivation in the grades or high school for work on the family budget. In the budget place *Saving* first. Various problems can be given from time to time such as:

The coal bill comes due in the summer. How can it be met? Why put in coal in the summer? Johnnie needs to have his adenoids removed. How can the family finance it? Expenses for clothing are heavy in the fall and winter. Can we arrange for that?

Problems should be carried along throughout the course, keeping the budget ever before the mind and thus establishing its importance. As a basis for class room work, the average amount of money necessary for a girl of that age in that town can be given. Then as each garment is made it must be put to the test, "What can this girl afford to buy?" Great pains must be taken in selecting to keep within the budget. This furnishes motivation for studying prices, qualities, etc. New problems will come up constantly as the study goes on. For example: Alice loses her sweater; her shoes wear out sooner than expected (motive for study of proper shoes for girls); she wants a sport coat; she needs to buy school supplies; she would like a muff; etc. The idea can be carried consistently throughout the course, the budget always being the deciding factor.

* May be obtained from the State Department of Education, Madison, Wisconsin.

The reasons why I have made the budget the basis for the Clothing Work are:

The extravagant and inappropriate dress of high school girls.

Lack of knowledge resulting in too many and too great variety of clothes.

Clothing work everywhere needs a sound, intellectual problem upon which to base the learning of processes.

Following Miss Goodspeed's address Miss Cora Davis spoke on "How the Smith-Hughes Work Is Affecting the Girl Who Wishes to Prepare for College." Miss Davis said, "Not at all." She gave some good courses which could be taken by any girl in the high school and showed that the work is good and broad enough for all. Copies of these courses can be obtained from Miss Davis at any time.

Due to the fact that the Section is so large, a division for round table discussions would be better another year.

8. THE ENGLISH SECTION

The twelfth annual meeting of the Illinois Association of Teachers of English convened in the Moot Court Room of the University of Illinois at nine o'clock, November twenty-first, President J. O. Huff presiding. After appointing a nominating committee consisting of Mr. Widger, Miss Eva Mitchell, and Miss Morris, and after calling for reports from the secretary and the treasurer, the President presented a paper in which he pointed out a danger incident to our divided aim as high school teachers of English. The composition-literature division of our subject invites an over-emphasis upon one or the other divisions. In recent years the composition work has been, he said, over stressed with the result that literary appreciation has been lamentably neglected. The paper was a plea for the cultivation in the pupils of a sense of literary values, rather than a sense of the technique of literary art. The paper follows.

In my experience in high school English work during the past few years, both as teacher and as supervisor, I have made a few observations and reached a few conclusions which may prove of some interest to you. In any work of the nature of investigation or experiment, such as the Illinois English teachers have been engaged in for the past several years, there is always the danger that some important element of the whole matter will receive a minimum of attention, if any at all. This danger is especially great in our work, because of what is generally considered its dual nature, that is, the composition-literature division of the English course.

The composition side of our work has for the past few years received a very considerable amount of attention by the association. Of late, oral composition has occupied a conspicuous place in our programs. Ways of eradicating faults in speech have been devised, and have no doubt been used to advantage. The "Better-Speech Week" movement has recently been started, and tho it is still in the experimental stage, it promises to yield worth while results. Methods of grading themes have come in for their share of attention, and the suggestions and facts brought out in this phase of the work have been productive of good. Now, I am of the opinion that in none of this work

in connection with composition has time been unwisely used. We have made serious attempts to do definite things, and in some cases to find out the results of our efforts. But I started out to criticise.

What about our success in attempting to cultivate in our students a taste for good reading? Certainly we have no very convincing evidence that we are successful in teaching appreciation of literature. If you grant that we still have much to learn in this fine art, may I ask whether you have discovered any specific causes of lack of progress. I have often observed this lack of success in those teachers of English who place too great emphasis on that phase of the study of literature which the average teacher of English can do only indifferently well; I refer to that tendency to "burden the study of literature with detailed language analysis and with formal study of the technique of literary composition". This tendency to make a class study of the technical structure of the various literary forms is strong in some teachers, and is to be discouraged; for even if we grant that the teacher has a sufficient knowledge of the matter to enable her to teach it well, only a very little, if any, profit worth while to the student can come from her efforts.

When I eat honey I not only do not care to inquire how the bees go about the business of making it, but I prefer not to think of the process. That is matter for the laboratory.

Detailed analysis and adverse criticism of the best pieces of literature will often explain the fact that students are led to neglect a certain form of literature instead of having an increased interest in it. It is seldom that a high school teacher can safely or profitably point out weaknesses in the masters. As teachers we are not critics of art, nor are we teaching those of whom any considerable number will become artists in literature. Our duty is to teach the pupils how to enjoy the work of the artist, not to bewilder them with a mass of information about the technique of his art.

When we sit with the banished duke in the forest and listen to his pleasing and wholesome talk, neither our pleasure in the story nor the moral or spiritual benefit we derive depends on our knowledge of the technique of the dramatic art. When we are delighted with the miser escaped from his outgrown shell, we need not know the intricacies of the art of novel writing in order to get pleasure or profit from our reading. It is quite possible to read Emerson or Lamb with much profit and at the same time to be quite ignorant of the principles governing the work of the essayist.

Have we ever attempted to find out whether the students, after studying one of Emerson's essays, have read more of the same author like us because they love him? Have we ever had any conclusive evidence that, after a study of that most suitable of all English novels for high school work, *Silas Marner*, the students have gone of their own choice to the story of Adam Bede, or *Romola*, or *Mill on the Floss*? Do we know whether or not we are often so successful in teaching *L'Allegro* and *Il Penseroso* that the class as a whole, or even a small minority of it, is led by their interest in the author to the pages of *Lycidas* or *Comus*?

I believe that in this work in literature we are too prone to consider our work done when the study of a classic is finished. This tendency is not characteristic of the teacher who is a real student; and every true teacher is a student of her efforts and of their results. We cannot know to what extent we have accomplished the one big purpose of the work in literature until we know the reading habits, the literary tastes, of those we have taught. I am not aware of any systematic attempt to learn what kinds of literature are read by the high school boys and girls when they are left absolutely free to choose. Many of you remember that a few years ago Mr. McConn made an investigation to determine high school students' preferences in the English classics. The results of the investigation are interesting, and they no doubt fulfilled its purpose, which was to "deduce criteria that will enable us to select a list that shall take account of our students as well as of the resources of

our literature." Such criteria are invaluable in our work. We must know which classics of a certain carefully chosen list are preferred by the individual, by the class, or by the school, in order that we may start with that very important asset, the student's interest. But if our inquiry stops here we will not have learned much about our ability to teach appreciation of good literature. If a student tells me that he prefers *Ivanhoe* to *The Cotter's Saturday Night*, I can not feel at all certain that he will sit up nights to read *Scott*. Perhaps if *Diamond Dick* were substituted for *Burns' poem*, the great English story would drop to second place. What we are in need of is some very definite knowledge concerning the actual literary tastes of high school students, and in particular what those tastes are in the senior year. I recognize the rather intricate nature of an undertaking looking to the discovery of such information; but I believe the difficulty of obtaining the information does not lessen its value, and certainly to find out whether our high school students prefer to read first of all that class of literature a liking for which we have tried to cultivate in them, is not without the bounds of possibility.

I think I have not exaggerated in these remarks. I am certain the subject is worthy our long and careful consideration. Let us hope that this work of teaching a love for good literature is not a virgin field for any one of us; but let us at the same time realize that each of us has much to learn concerning the harvest. What is it? What shall it be?

The following report of the Committee on Curriculum Reconstruction was presented by Miss Essie Chamberlain of Oak Park.

Report of the Committee on Curriculum Reconstruction Essie Chamberlain, Oak Park High School

Last spring, at the request of the General Committee on Curriculum Reconstruction, organized at the suggestion of Dean Charters, the president of this Association of English teachers appointed the following committee on Curriculum Reconstruction: Essie Chamberlain, Oak Park; Susan Wilcox, Springfield; Thomas Deam, Decatur. The purpose of this Committee was to study curriculum problems in the field of English. At a conference of the group chairmen, Dean Charters made clear that this is only a beginning, that no one dared hope for reconstruction even in several years, that a small piece of work done each year would amount to a considerable contribution in seven or eight years. So please remember this is only a beginning. If this report succeeds in making you aware of curriculum problems, critical of them; should it impel a few to attempt their solution, it will have succeeded in its purpose.

The problem of the committee for this year is the study of a small part of the field of Composition, on which already so much has been written, and so little has been accomplished, according to our captious critics, one of whom refers to it as, "That burying ground of human interests," while another facetiously calls it the "Darkest Africa of English." It seemed worth while to the committee to ascertain, if possible, the status of Composition in Illinois High Schools. To that end a questionnaire was mailed last May to five hundred high schools in the state, the list being taken from Circular No. 135, Recognized High Schools of Illinois, published by the State Superintendent.

The questionnaire attempted to find out five things: 1. Text in use. 2. Whether the text largely determined the material taught in composition. 3. In case it did not serve largely as a guide, what helps were used to supplement the text. 4. What subjects were taught not included in the text. 5. Whether the school has a special course in composition.

From the five hundred questionnaires mailed, three hundred two answers were received. Of the three hundred two, twenty-two were thrown out for various reasons, leaving a total of two hundred eighty on which to base the

first part of this report. The following table shows the number of schools reporting, classified as their enrollment:

1-99	100-249	250-499	500-749	750-1000	1000+
134	84	39	7	5	9

These figures show that the two hundred eighty schools present in reality a good random sample, for it must not be forgotten that the typical school is the school under two hundred fifty, and that the typical English teacher is the teacher in the smaller High School. Outside of Chicago there are few schools with an enrollment of over one thousand.

The text book situation presents some suggestive features. From the two hundred eighty schools reporting are listed thirty-four different books used as regular texts.

1 <i>Hitchcock</i>	60	18 <i>Stebbins</i>	2
2 <i>Scott and Denney</i>	45	19 <i>Brooks</i>	2
3 <i>Herrick and Damon</i>	41	20 <i>Genung and Hanson</i>	2
4 <i>Lewis and Hosc</i>	34	21 <i>Gardiner, K'tt'ge, Arnold</i>	2
5 <i>Ward</i>	16	22 <i>Brubaker and Snyder</i>	2
6 <i>Brooks and Hubbard</i>	12	23 <i>Lomer and Ashmun</i>	2
7 <i>Claxton and McGinnis</i>	12	24 <i>Thorndike</i>	1
8 <i>Briggs and McKinney</i>	11	25 <i>Carpenter</i>	1
9 <i>Clippinger</i>	10	26 <i>Buelig</i>	1
10 <i>Miller</i>	9	27 <i>Merkeley and Ferguson</i>	1
11 <i>Hanson</i>	8	28 <i>Marshall</i>	1
12 <i>Thomas and Howe</i>	7	29 <i>Hill</i>	1
13 <i>Lockwood and Emerson</i>	4	30 <i>Huntington</i>	1
14 <i>Shackford and Judson</i>	4	31 <i>Linn</i>	1
15 <i>Canby and Opdyke</i>	3	32 <i>Blaisdell</i>	1
16 <i>Century Handbook</i>	2	33 <i>Bolenius</i>	1
17 <i>Webster</i>	2	34 <i>Wooley</i>	1

Four of these books are used in 180 schools, or in 67% of the schools reporting. *Hitchcock* is used in 60 schools, *Scott and Denney* in 45, *Herrick and Damon* in 41, and *Lewis and Hosc* in 34. The believers of the "Accuracy First" slogan will be pleased to see *Ward* fifth, with 16 schools using it.

One hundred seventy five teachers report that the text is used as a guide, and they report no outside helps. Since many who checked plan 2, "Use of text with other composition helps, when asked to name these helps, either named none at all, or gave such meager lists, one wonders if the number should not be larger. It is a safe conclusion that the text book determines to a large extent composition teaching in Illinois.

One hundred twenty-five teachers report that the text was supplemented by other helps. Of these outside helps, eighty-three were listed and may be grouped roughly in three classes: Other texts, 54; Magazines, 14; Miscellaneous helps, 15. From the seven most frequently mentioned texts, one recognizes the already familiar *Hitchcock*, *Scott and Denney*, *Herrick and Damon*, and *Lewis and Hosc*. Fourteen magazines are listed; *The Literary Digest* leads with 40 mentions, and is followed by the *Independent*, 13, and the *English Journal*, 11. Of the fifteen miscellaneous helps, 29 mentions are made of the classics as a basis for composition, while 27 pay glad tribute to the *English Bulletins* issued by this Association. Since so many of the answering teachers mention their composition note books from the Universities, and their summer school courses, where inspiration came from no less personages than our Professors Paul, Lyman, and Pendleton, may we not, if this report shows grave faults in our High School methods, reverse the time honored rule, and place the blame at the door of the Universities, for "gladly do we learn, and gladly

teach" what we have learned. Minimum requirements, Health bulletins, statues and pictures are all used as aids in composition, as are other just as diverse helps.

The next question is answered in a way to interest both the student of the curriculum, and the text book maker. In answer to the question: "What subjects do you teach which are not included in the text?" thirty-five subjects are named. Probably half of these are included in some text. If demand regulate supply here, all our text makers should include chapters on Oral Composition and Vocational and Business English. That our teachers are trying to teach English which functions in daily business life is expressed in the following group: 1. Vocational English; 2. Commercial English; 3. Advertising; 4. Trades Course; 5. Salesmanship. That they are attempting to socialize the recitation and link it with real life is revealed by this group: 1. Editorials; 2. News; 3. Current Events; 4. World War and Reconstruction. Here we find school and community projects, morals, patriotism, pictures, dramatization, after dinner speeches, play writing, short stories, and essays. This varied list suggests this question: Should the field be narrow, and should we insist on a few minimum essentials, or should the field be broad as life itself?

One has but to glance at the wide divergence of subjects included in our texts, which will be touched on in the next part of the report, and then add to that group our thirty-five additional subjects, to realize the infinite variety of subject matter. As to the handling of this multitudinous material, may we not expect to find just as great variation? In the space allowed for general comment, one most significant and frequent was, "Am not satisfied with present text; we are contemplating a change." Frequently the text likely to displace the regular one is named, and it is only too often the one some other teacher, just as earnest and conscientious, is wishing to depose for another favorite, which is just as likely to be the one scorned by the first teacher. But with the poet, "If she be not fair to me, what care I how fair she be." Surely there are certain criteria by which text books may be judged. Might not our *English Bulletin* publish an article designed to guide our English teachers and principals in text book selections, for schools of different types? That complaint of the public official responsible for the choice of text books, in which he denied justification for criticism of State selection, is interesting. He maintained that school people were generally unreliable in their selections, that it was entirely possible to map out the route followed by certain book agents through the state, by the stream of letters recommending certain books that came to the State Textbook Commission. May it be just as possible that our genial friends, the book men who represent our four leading texts, are more skilled in the psychology of human nature than their less fortunate competitors, as that their books are the four best texts in use in the state?

A second comment hardly less potent than the first is, "The English teachers are new this year and are experimenting;" in many instances the text is unfamiliar, hence followed closely, and as a result nothing definite has been done in the way of a regular composition course. Sister to these two is the frequent comment, "I do not expect to be here next year, so have not done anything in the way of a course." This shifting population, found particularly in the smaller schools, presents the question as to whether the product of composition teaching would not be better, if there were some official requirement, a definite list of minimal essentials which must be lived up to, together with the use of a text that took into consideration the proper order and presentation of these essentials. True it is, we have such a list, and these in the hands of an experienced teacher using any or no text book, will accomplish results; however, there is no compulsion as to their use, and in the case of the inexperienced teacher, the text should serve as a guide no less for him than for the student. The book should be definite enough, "To guide the bewildered teacher, but should not confine the adventurous."

Other general comments present stimulating hints. The inclusion of suggestions on the use of library references might be a welcome addition to those teachers in schools which do not have trained librarians. Many complain that the treatment of certain subjects in the text is hopelessly inadequate. One teacher with Bolshevik tendencies is, "Anxious for the opportunity to throw out about half of our work in literature and substitute grammar, rhetoric, diction, etc." But to keep the proper balance, this desire of one of our "Reds," of whom there are no less than 8,000 in our schools, according to the World's Greatest Newspaper, is offset by the stand-pat attitude maintained by that principle of the teacher who reports that she uses outside material, "As far as I dare." Lest we forget our reputation of being the harmless necessary drudges of the faculty, some report use of the conference hour "wherever possible." School and community projects are worked out in those schools which report clubs of four minute speakers, and journalism tied up to local and school papers. It would be interesting to know how many of these schools reporting such co-operation have a system of credits given in English for newspaper work. One learns further in these comments, that in four schools composition and literature are divided by semesters; in some Illinois Utopias, English is emphasized in all subjects. A good many give $\frac{2}{5}$ time to composition, $\frac{3}{5}$ to literature. Very likely that English teacher who said, "My English plans are very flexible" spoke for most of us, while the teacher who when asked to name other helps, said "Principally myself" was forced to that conclusion by the field in which she had to work. This question of what we should include in the composition course suggests the problem of emphasis. What are the essentials in composition? How much may we with propriety exclude?

If the English teacher in her subject matter has been as broad and general as the casing air, what may he expect to find in a brief survey of the texts? The writer of the text is no more cabined, cribbed, confined, than is the teacher. In choice of subject matter, in scope and variety of treatment, in the order in which material is presented, in the varying emphasis laid on development and drill, we find something to please at least all the authors. Of the fourteen books I found time to analyze from our list of thirty-four, 1. *Hitchcock*, 2. *Scott and Denney*, 3. *Lewis and Holic*, 4. *Herrick and Damon*, 5. *Claxton and McGinnis*, 6. *Thomas and Howe*, 7. *Webster*, 8. *Gardner, Kittredge, and Arnold*, 9. *Huntington*, 10. *Gerrish and Cunningham*, 11. *Briggs and McKinney*, 12. *Ward*, 13. *Canby and Opdyke*, 14. *Clippinger*, one finds a good many significant things. The books vary in date of publication from 1907 to 1917. The users of the earlier books, naturally, are denied the benefits of these last quickening years of experiment and investigation. Most of these texts have treatments of some sort on the conventional Narration, Description, Exposition, Argument, The Whole Composition, Paragraph, Sentence, Word. Spelling, Grammar, Oral Composition, Figures of Speech, and Versification may or may not be included. One most inclusive text devotes a chapter to Pageantry, another one to the Drama and Literary Types. While most texts have no pictures, one has one hundred two, distributed in rhythmic fashion, breaking up, at random, development, drill or assignment, in such fashion as to make the pictures no integral part of the book. All material may be used to develop one big idea, expressed by such words as "effectiveness," "practice," "sincerity." To the teacher who uses the text as a guide, the logical order of development is a prime requisite for successful results. Yet here there is as great variation as in our earlier study. One text discusses Whole Compositions, Paragraphs, Sentences, and treats Words last; the next one reverses this order. There is complete shuffling of order in the four forms of Discourse. Grammar, Spelling, Punctuation may be isolated chapters in the appendix, or they may be worked in as integral parts of each development. There is even less unanimity in emphasis as shown by the number of pages devoted to the various subjects, as will be seen in the following:

Subject	No. of pages
Narration	10 to 79
Exposition	12 to 69
Description	0 to 61
Argument	8 to 67
Letter Writing	0 to 87
Paragraph	15 to 80

In comparing the whole text, one author requires 553 pages to develop his material, another does it in 295 pages. We find the same condition in a comparison of pages devoted to development and drill exercises. It is easy to be destructive in criticism, far easier than to be constructive. May we not, however, suggest that our Universities cannot expect a unified product from the High Schools, until the makers of the curriculum determine aims and objectives, defining them in powers, information, and attitudes; until texts are standardized, making intelligent coöperation possible?

Having ascertained the texts in use, their importance in the hands of the teacher, having examined the organization of a number of these texts, we thought it feasible to test a small product of the composition classes to find out what things we fail to emphasize properly. To that end, the teachers of Highland Park, Decatur, Springfield, and Oak Park were asked to grade one or two sets of Freshman and Senior themes, marking by numbers in the margin all violations of the twenty-one minimum requirements used in Freshman English in Oak Park. As other errors were found, they were to be noted in the margin and added to the list of twenty-one. The papers were to represent regular composition work for October; the pupils were not to know that the papers were to be used for any special purpose. These minimum requirements are as follows:

Minimum Requirements in Ninth Grade English—1919

1. Use complete sentences in all connected writing.
2. Make the subject agree with the verb.
3. Be able to decline all pronouns.
4. Use the following verbs correctly in the past and past participle forms: *see, do, come, go, sit, lie, give, begin, ring, and write.*
5. Use a period at the end of declarative sentences, and after abbreviations.
6. Use a comma to set off words in direct address.
7. Use a comma to set off expressions in a series.
8. Use a comma to set off appositives.
9. Use a comma to set off short direct quotations.
10. Use a comma before *and, but, for, and so* between coördinate clauses.
11. Use a question mark at the end of interrogative sentences.
12. Use quotation marks to inclose a direct quotation.
13. Use an apostrophe to denote the possessive case of nouns.
14. Use an apostrophe to denote the omission of letters and figures.
15. Use a capital letter to begin the first word of a sentence.
16. Use a capital letter to begin important words in titles of themes, essays, and books.
17. Use a capital letter to begin the first word of a direct quotation.
18. Spelling.
19. Unnecessary comma.
20. Unnecessary capital letter.
21. Comma fault.

This study of errors is based on 828 pages of Senior Compositions, and 1,115 pages of Freshman Composition. Thirteen different teachers graded the Oak Park papers, and several teachers from each of the other schools helped in this work. While other mistakes were made on the papers than those listed, it seemed best to confine the tabulation to the above named twenty-one. In most papers, these other errors were not frequent; and it is safe to say that by far the greater number of errors made are included in the list.

There are several sources of possible error: 1. The teachers probably failed to catch all mistakes. 2. The teachers probably differed in their ability to see and mark all mistakes. 3. Certain ones of us are painfully alert to certain errors, hence our tabulation of these may run high, while we neglect other faults which are regarded as most vital by another teacher.

Of the 1115 pages of English I composition examined, there was a total of 5428 errors, or 5.7 errors per page. On 240 pages from Highland Park, are tabulated 1550 errors, making an average of 6.4 errors per page. On 382 pages of Decatur compositions, are found 2017 errors, averaging 5.2 errors per page. Oak Park furnishes 1771 errors on 455 pages, making 3.9 errors per page. Because of a misunderstanding, there were only 38 pages from Springfield freshmen. These showed 120 errors, or 3.1 errors per page. This number is, of course, too small to be of any comparative value.

One might present theories as to the differences shown by these figures. The Highland Park teachers may have caught more mistakes, we in Oak Park may have been careless. Probably the grade school situation would throw most light on this comparison. For the last two years, the English teachers of Oak Park have felt that the product received from the grades has been of higher quality; this may be explained by the fact that two years ago the seventh and eighth grade teachers met with the English Department and there agreed on certain minimum essentials the student should master before he reach High School. These figures certainly do not show anything about relative abilities of teaching, for the papers were either September or October papers. It would be an interesting problem to see what relative standing these same schools would show at the end of the school year.

In the English IV papers, including 828 pages, are found 2118 errors: Decatur has 3.3 errors per page; Highland Park 3.2 errors per page; and Oak Park 2.2 errors per page.

A comparison of the errors per page for Freshmen and Seniors presents some interesting features. If Highland Park ranked lowest in English I, with 6.4 errors per page, she comes into her own in this comparison, for she reduces the errors one half; if the figures mean anything, she does more in raising composition standards than do the other schools, for neither Oak Park nor Decatur can show so great a decrease in errors.

What are the most common faults from the twenty-one which are listed? In the 828 pages of Senior Composition, from the 2118 errors, 26% are in spelling, 22% of errors are the omission of the comma between coordinate clauses, 6.3% are common fault, 5.1%, unnecessary comma, 4.6%, omission of comma in series, 4%, omission of apostrophe to show possession, 3.7%, failure to use question mark, 3.5%, unnecessary capital letter. These eight errors make up 75.2% of all errors. 38% are faults of the comma.

In the 1115 sheets of English I compositions, totaling 5458 errors, again spelling constitutes 25% of all errors, 14%, omission of comma between coordinate clauses, 12.3%, omission of period at end of declarative sentences, 6.7%, comma fault, 5.8%, use of capital to begin first word of sentence, 5.1%, unnecessary capital, 4.2%, unnecessary comma, 4.1%, use of quotation marks. These seven "deadly sins" make up 77.2% or more than $\frac{3}{4}$ of all mistakes.

Table I—English IV Errors

Error Number	Highland Park 132 pages	Oak Park 570 pages	Decatur 126 pages	Total 828 pages
1	12	28	3	40
2	2	14	3	21
3	1	34	22	56
4	10	22	3	34
5	29	32	10	71
6	3	30	1	34
7	24	46	27	97
8	8	12	1	21
9	5	18	1	24
10	99	309	75	473
11	11	56	12	79
12	2	32	8	48
13	15	58	14	86
14	6	61	1	67
16	0	16	2	18
16	22	33	9	62
17	0	11	6	17
18	127	349	85	552
19	35	31	43	109
20	19	43	13	75
21	1	62	78	134
Total	431	1303	417	2118

Table II—English I Errors

Error Number	Highland Park 240 pages	Oak Park 455 pages	Decatur 382 pages	Springfield 38 pages	Total 1115 pages
1	21	44	20	6	91
2	9	19	34	5	67
3	7	11	14	3	35
4	71	36	52	—	159
5	303	90	268	10	671
6	28	12	16	—	56
7	76	25	7	6	114
8	39	18	11	1	69
9	19	21	92	—	132
10	181	382	192	13	768
11	15	15	19	—	49
12	21	51	151	1	224
13	30	118	63	—	211
14	18	14	21	2	55
16	16	48	247	7	318
16	39	27	38	8	112
17	0	13	33	—	46
18	410	494	466	29	1399
19	58	132	40	1	231
20	189	44	40	19	282
21	0	165	193	9	367
Total	1550	1771	2017	120	5458

These are the most frequent errors of the twenty-one listed. Are they the ones your students make too? Are they important or trivial? If they are important, how can the curriculum be planned to eliminate these errors? In Oak Park, rigid minimum requirements are the things which have raised our standards in the last three years. We follow such lists as these:

1. Freshmen and Sophomores shall receive *D* for ———
2. Juniors and Seniors shall receive *D* for ———
3. What every Freshman should know.
4. What every Freshman should know about Grammar.
5. Minimum spelling list of 200 words for Freshmen and Sophomores.
6. Minimum spelling list of 200 words for Juniors and Seniors. An effort is made to treat these as real requirements. For example, a student does not earn his English grade for the year until he has passed the spelling list at 100%.

The study of the text book situation, its dominance in the classroom, the bewildering curriculum problems presented by text book material and organization, and a study of composition errors in 1943 pages of regular composition work, present surely curriculum problems which should be solved. Which ones will you, in your daily work, make your problem?

The report was discussed by Principal Thomas M. Deam of Decatur. He emphasized what he considered the deplorable lack of agreement upon what really constitutes minimum essentials. In view of the present lack of standardization in composition requirements, he

advocated the selection of a few essentials and cooperation in working toward a definitely limited aim.

**The Report was Further Discussed by Miss Susan Wilcox,
Springfield,**

who spoke as follows:

The speakers who have preceded me have shown the need of a reconstruction in the course in composition for the first year of the high school, and that that need requires a program unified in aim and content. I shall have the temerity to propose a course that will purport to meet this need. If we wait until the text book is published that embodies the ideals of all of us and until we find the preparation of all Freshmen entirely satisfactory to us, I fear reconstruction will be delayed indefinitely, and our need is urgent. Hence, I am willing to suggest a course that may at least serve as a point of departure for our march to our next New Jerusalem.

Of the many different text books used in the high schools of Illinois these four are far in the lead: Scott and Denney, Lewis and Hosis, Herrick and Damon, and Hitchcock. I do not claim that they are the best, but the fact that they are the most used may give us a basis for those things on which many of us are already agreed. The points on which they all agree are probably fundamental. Let me enumerate some of these.

In all four few pages are given to enunciating rules and principles of composition in comparison to the number given to illustrations of these and to practice exercises. We may take this for the first plank in our platform, Little theory and much practice.

All four stress oral composition and make provision for its exercise.

All agree that composition work should begin with short and simple themes in (1) narration and composition, (2) exposition, (3) argument, and in the order in which I have given them.

All include letter writing, both business and friendly letters.

All treat of the selections of subjects for themes and agree from what fields these should be drawn and emphasize their relative importance in this order: (1) the pupils' experience and observation, (2) studies, (3) reading. All tell how to adapt a subject to the length and kind of theme contemplated.

All agree on the need of making an outline by which to make the theme and give directions and suggestions for making it.

All include a study of the paragraph as a composition in itself and as a thought division in a composition. They teach the topic, the topic sentence, the principles that determine its sentences and their order, the different kinds of paragraphs, and methods of developing topic sentences into paragraphs. They do not agree on how much on each of these is necessary, but it means much that they agree on the things that should be taught concerning this subject and that these things should be taught in connection with theme work.

The big four agree in giving a good deal of space to the review of the practical parts of grammar: simple sentence analysis that shows subject and predicate and their modifiers, the recognition of the parts of speech, and the rules for agreement of subject and predicate, pronoun and antecedent, etc. They provide drills for the correction of common errors. They treat of the different kinds of sentences, their effective use, and of how they are built up.

All tell how to use the common marks of punctuation and capitals.

All give some attention to vocabulary: how to acquire one, how to use a dictionary, to the spelling of words commonly misspelled, to synonyms and antonyms, to the derivation of words, to word-building, and to good usage.

Lastly all agree on the order in which the elements of composition should be studied, (1) the composition as a whole, (2) the paragraph, (3) the sentence, (4) the word.

Do we not have the material from which we may make a minimum course for composition the first year? Can we not make that course as definite as a course in mathematics? We have already the subjects which our course must contain and in part the order in which they should be taken up. It remains then to decide upon just what amount of each the course should contain, and on some common method of how to teach them.

What a blessing such a well defined minimum course would be to the harassed teacher of first year composition, particularly in those schools where the teacher of English makes so brief a stay that she is a pilgrim and a stranger always. Such a course would be a city of refuge to which she might flee when pursued by the hordes of ideals that she is urged to inject into the English course, aims that range from preparing the pupils to be citizens in the coming millenium to turning them out good spellers.

Fortunately much of the work to determine the amount for each part of our course has already been done in the committee on requirements in form of written work in English whose report has been adopted by this association. This report may be obtained from Doctor Paul.

Since many classes in first year work are very large, and some pupils well grounded in fundamentals of composition before they enter the high school, this course proposed should be inaugurated by a series of tests on grammar, sentence-sense, punctuation, capitals, and vocabulary. All those who prove themselves proficient in these should be given credit for the first year work and allowed to go on to the work of the second year. Why should not this association work out a series of such tests?

To finish that part of our course that deals with the amount to be required, let us take up each subject not considered in the report of the committee to which I have referred and be as specific as they have been. For example, let us agree on just how many oral and written themes should be required in narration and description, the kind of outline that will serve best, and with what subjects in the Freshman curriculum the work in exposition and argument can best be correlated. Let us decide the number of themes needed of any one kind to achieve the aim we have in view. I do not believe that we shall ever make our work satisfactory until we find some relation between the amount we require and the goal we have in view.

Why not lay the ghost of bad spelling that torments us by requiring every pupil to spell a list of words compounded from lists used in the grades below the high school, from those common to the lists given by our big four, and from the list made from words misspelled in first year theme? Surely then we should have done our part.

Our course should go farther than prescribing the subjects and the amount of each to be required. It should define the best methods of procedure even in the chaotic field of English composition. I am aware that now I am treading on holy and preëmpted ground when I am emboldened to suggest a plan which has the merit that it has been tried with some degree of success. I shall put it as briefly as I can:

(1) A well defined object for each theme; to put it in up-to-date "Pedagogue," a project, if possible drawn from the needs and interests of the pupils by the pupils, but in any case a real aim that the pupil has clearly in mind before he begins his composition. If he is to tell a story, that he attempt a certain kind, whether it be an anecdote, a humorous incident, or a "thriller"; if he is to explain something, that he do it with certain definite persons in mind to whom he expects to make it clear. In short, he must have a target if he is not to shoot wildly.

(2) An example of how some one else has worked out a similar project, a model.

(3) A list of subjects or of suggestions that will help a pupil to find something in which he is interested, and that will be adapted to the particular project he is undertaking.

(4) The making of a simple outline or plan for his theme. Let us recognize that this is the most important part of the work since all clear expression depends on clear thinking. Here is the place to see whether a pupil has wisely chosen his subject, to teach unity and coherence, to anticipate mistakes, to make suggestions to those suffering from a paucity of ideas, to show a pupil how to use his own experience and where to find additional material that he feels he needs. This part of the work well done should make the dreary work of rewriting of themes unnecessary.

(5) When the plan is satisfactory the pupil is to prepare by it for an oral theme.

(6) He next gives the oral theme to his classmates. They give him criticism that shall be for the most part constructive, trying to tell him just where and how the theme may be improved.

(7) Profiting by this criticism, the student then writes his theme for the practice this gives in the mechanics of writing and for the drill in expressing himself in writing when he is thoroughly master of his material.

(8) The teacher corrects the theme.

(9) On the return of his paper the pupil numbers each mistake that he has made. On another sheet of paper he lists these numbers, and for each states the error, the rule or principle violated, and corrects the mistake. This procedure will rapidly reduce the number of errors in themes. These mistakes rise from two causes, ignorance or carelessness; this method will teach the ignorant and give the careless the discipline they need. "Red ink" will not be wasted.

(10) Each student is provided with a list of the most common errors found in Freshman themes; opposite this are columns ruled, one for each theme. On this sheet he records his mistakes. This serves as a basis for the drill he needs.

If we can decide for the first year in composition, just what subjects we shall teach, just how much of each we shall require, and on some method of teaching these, I believe we could satisfactorily accomplish the first stage in our journey to our goal of clear and effective self-expression in English. This requires that we concentrate our efforts on a minimum course and that we say with the apostle, "This one thing I do," and that we do it for every pupil. There are desirable things other than these for pupils who can do more than this minimum course, but our first concern is with this minimum. The time is ripe for this association to build and launch such a course.

The Use of Newspapers and Magazines in High School English was discussed by Miss Olive Bear of Decatur in the following paper:

Methods for the Use of Newspapers and Magazines in High School English

Eight years ago we carried home with us from this English Conference a suggestion, new, virile, and exhilarating. It was not given in one of the main discussions of the meeting. It was given casually, even cautiously, a kind of by-product as it were, the value of which was uncertain; but it offered a life-giving, life-saving innovation, and it was eagerly seized upon. Since that meeting many of us have proved to our own satisfaction its worth, and in turn, in many ways, have had it proved to us. This suggestion was simply that the material in our best magazines be utilized for oral reports in composition.

All was not done, however, by merely putting into the pupils' hands a newspaper or magazine. This, possibly, might have sufficed for a few weeks, but the mind unawake to the many-sided, far-reaching world around it, and un-

trained in serious reading needed a stimulus that would make it eager to know, eager to talk about, and eager to imitate. Some method—a variety of methods—must be devised to introduce the disinterested mind to this new field of attack, to awaken its interest in it, and to hold its interest when once aroused. So vast and so varied is the field—the study of punctuation, words, style, cartoons, advertisements, business letter-writing, the prepared speech, the extemporaneous talk, the open discussion, the debate, narration, exposition, argumentation, description, modern poetry, the book-review, journalism—and the success of the study so dependent upon the manner of approach, that one might labor continuously devising and wisely selecting methods of attack.

The first lesson in the study of the magazine or newspaper may wisely be an introductory one, making the pupil acquainted with the departments to be found in the paper and the purpose of each. Then throughout the semester upon the arrival of each issue, five or ten minutes of the class hour may be given to informal conversation in which the especially interesting features of the issue are pointed out. Thus, with a better understanding of the tool that he is handling and a happy introduction to it at each recurrent appearance, the pupil is sent out brimming full of interest in it and ready to read eagerly when the opportunity offers.

To test the careful reading of the class a "question-match" may be conducted. Questions that may be answered briefly may be prepared on various assigned articles and the two sides of the class matched in a "question-down." Such an exercise as this should be given only occasionally, however, as any method that might tend to make the pupil dread the study of the magazine should be avoided.

Punctuation may be vitalized through the magazine. The class may be assigned the task of finding sentences punctuated according to various rules, these sentences, or the necessary parts of them, to be set down on paper and passed in as the preparation for the day's lesson. The class hour itself may be spent explaining the use of certain selected punctuation marks. Such a lesson as this impresses upon the minds of the class the fact that punctuation rules are not invented by designing teachers as a method of discipline or punishment, but that they are a necessary part of the working equipment of the best writers in the actual living world.

The magazine may be used in the building of a vocabulary. When in the reading of a magazine the class comes across an unfamiliar word, one in wide current use or a particularly bright and forceful one, the word should be noted, looked up in the dictionary, put into a note book, closely studied in its present use in the text, used repeatedly by the pupils themselves, and recalled frequently. This same method may be used in the mastery of new words.

A most valuable method for securing the reading of the magazine is the requiring of a prepared three to six minutes speech, the material for which is to be obtained from the magazine in hand and supplemented by a broader reading in newspapers and other magazines. The extemporaneous talk on topics in recent issues, the open discussion naturally following a speech on a subject upon which a wide-awake class is informed, and finally the debate eagerly sought in order that the subject may be more thoroughly discussed, can all be introduced into the class program with great profit.

So many methods of vitalizing written English through the use of the magazine or newspaper suggest themselves that it will be possible merely to touch upon this field. Poems found in current literature may be profitably rewritten in prose. All kinds of business letters may be the outgrowth of the advertisements. For the purpose of gaining information letters may be addressed to the department of a magazine, the business of which it is to answer inquiries. The pupils may learn to use the periodic sentence, the loose sentence, the short or the long one, the topic sentence, and the transitional sentence. Paragraph structure may be studied; figures of speech pointed out, these serving as aids to written work. The study of the book-review may be particularly helpful

in offering a model of what a good book-review is and the kind of thing desirable in a pupil's report on his outside reading.

One of the most fascinating methods of attacking the magazines and newspapers in high school English is through the study of Journalism. The students may collect a number of papers and magazines and make a careful examination of them. Each pupil may select the magazine or paper he wishes to follow. This study should be consistent and continual in an endeavor to discover the policy of the paper, its style, and its general characteristics. Clippings illustrative of certain characteristics of the paper may be made and put into a note book or displayed on a bulletin board. In the same manner may be posted clippings indicating the attitude of the paper towards certain important questions of the day as revealed in the various succeeding issues. Then a composite newspaper may be made, the various parts being compiled from the papers under study. In this way the relative merits of the papers may be compared. When this preliminary work is done, the class may be turned into a newspaper staff and may itself get out a newspaper. As a final effort this same staff, under the direction of the regular staff, may get out one of the daily issues of a city paper itself.

A final method, one which has proved more satisfactory than any, perhaps, is the following. The composition class, reciting twice a week, is divided into four sections each with an elected chairman and five other members. While the chairman is responsible for both the oral and the written program of his section, he is encouraged to pass on the responsibility, and thus to give to each member of the class the opportunity to conduct the class, to show his ability to present an interesting program, and to know the satisfaction of having done a clever thing. A friendly kind of rivalry is in this way created among the various divisions, and a loyalty to one's chairman and to one's division becomes a stronger factor in spurring the pupil on to good preparation than personal interest in one's own recitation.

But the value of any plan may be judged by its outgrowth. A description then of a number of typical programs may reveal the kind of work produced by such a method. The chairman of a division announces that the subject under discussion is Modern Poetry and gives a brief, but interesting and intelligent, discussion of it. This is followed by a sketch of the poets represented in the week's issue of the current magazine. Following this each member of the division reads a poem, points out its characteristics and comments upon them, and at the same time gives a frank discussion as to just what method he has pursued to discover the value of the poem, tells what it grew to mean to him, and from other sources reads a poem that he considers a companion piece to it. Such a program as this is not only interesting and instructive to the pupils but to the teacher as well.

Sections at times, the more ambitious ones, take some general topic: The League of Nations, Bolshevism, or the Coal Miners' Strike, and each member discusses some phase of the subject. For this discussion is read not only the class magazine but other magazines and newspapers, whatever, in fact, can be found in which the matter is discussed. Another serious-minded section has what is called a "Big Problem" program. This consists of a review of the articles dealing with the most important and weightiest matters discussed in the week's issue. Such programs do not arouse so great a class interest, but there can be no question of their benefit.

One interesting lesson is made up entirely of parodies written on current poetry and dealing with matters pertaining to school life. Another may be one of personal glimpses. A division, having learned something about the art through such articles in the school magazine, tests its skill in making interesting a glimpse of common-place, well-known scenes and people. Again a section takes for its topic advertising. Advertising in general is briefly discussed by the chairman. What constitutes a good advertisement is the topic of the next speaker's talk. Following this other members select advertisements from the magazines and

while the class look on, tell in what ways these samples are illustrative of good or bad advertising. The same division may work out for its next written lesson an advertisement for some local product, this advertisement to be put in the next school publication.

One of the most unique programs that as yet has been offered was one by the "Bear With Us" division. The chairman announced that the class would attend a "movie" show that period, and immediately every one was eager attention. The program followed the regular order of an ordinary motion picture show, the various features being taken from the May 10, 1919, issue of "The Literary Digest." The first participant had advertisements as his subject; the second, A War Film, "A Ring Around Lenine"; then came an explanation of several cartoons, the most interesting of which was called, "A Taste of Internationalism." This was followed by a Travel Picture. Here a rather humorous but instructive article on "Hunting the Hippopotamus Furnished This Nimrod Numerous Thrills" was given. Next came "The Comedy," a number of selections from "Spice of Life." The tragedy was "A Full Blooded Romance" from Italy. Never was class discussion, which is a feature of every recitation, so lively as at the end of this program.

These are but a few of the many methods that may be used in the study of the newspapers and magazines in High School English.

The discussion was continued by Principal B. C. Richardson of Alton, who offered some practical suggestions for the improvement of pupils' English. He advocated the indirect method of increasing the pupil's vocabulary through the reading of periodicals, intelligently directed; and at the same time deplored the attempt to improve their speech habits either by calling attention to errors, or by ordering the pupils to learn the meanings of lists of words assigned by the teacher. The following contribution to the discussion was made by Miss Edith Hardy of Danville.

Report of Magazine and Newspaper Reading Done by English Students of the Danville High School

It seems to me that a knowledge of the magazine and newspaper reading high school students actually do outside of school would have some bearing upon our use of magazines and newspapers in the class room, so I shall give you the results of an investigation we made in the various English classes of the Danville High School recently. Some time after I had begun collecting data I picked up the English Journal to find that Mr. G. W. Willett of Hibbing, Montana, had made a similar investigation in the Hibbing Six-Year High School in March, 1918. Since some of you may not have noticed his article, and since comparisons are usually interesting, I will take the liberty of quoting from his article from time to time.

First I should like to acknowledge my indebtedness to my five colleagues in the English department, for without their assistance the investigation would have been impossible.

We had the students in the various English classes keep a record every day for a week of the magazine and newspaper reading they did, indicating on their reports how much time they had spent and what type of matter they read. I found that the average time spent reading newspapers was about thirty minutes a day, and that the boys were reading somewhat more than the girls. I do not think that we can attach any special significance to the figures obtained from the various classes, because the amount of time spent by individuals varied so very greatly, ranging anywhere from nothing to an average of three hours a

day, but it is at least interesting to note that the first year students were reading quite as much as the seniors, in fact, more in individual cases, and that the averages for the four years were very nearly the same. We were unable in the time we had for the preparation of this report to tabulate all of the large amount of data we obtained, but by general conclusions after reading a considerable number of papers are that very few of our high school pupils do not read the newspapers, those few being girls for the most part; that the newspapers read are largely the best ones available (the best local paper and the Chicago Tribune were far more popular than the other local and the Chicago American, for instance); that most students are keeping in touch with current events, even though some of them are only reading the headlines, which is often all that is necessary, of course; local news, jokes and pictures and among the first and second year students, newspaper fiction were popular.

Quoting from the English Journal for October, page 477, Mr. Willett's results were as follows:

"Two questions were asked about the newspaper: first, 'Do you read the daily papers regularly?' and second, 'What parts of the daily paper do you read?' Every child had had access to at least one daily paper in the school library. The answers to the question are shown in Table II.

"The answers were quite gratifying in that out of a total of 639 pupils, 231 boys, or 85 per cent of all the boys, and 295 girls, or more than 80 per cent of all the girls, reported that they read the daily paper regularly. Only 6 boys and 14 girls reported that they did not read the paper, 8 boys and 7 girls failed to answer, and 23 boys and 52 girls said that they 'read none regularly.'

"The table points out what parts of the paper are read and the respective popularity of each part. Many pupils enumerated a number of different parts of the paper: 45 boys and 51 girls stated that they read 'all' of the paper, 29 boys and 48 girls said they read 'most parts' and 15 boys and 25 girls did not answer. 'War news' was far in the lead, as should be expected both from the emphasis given by the paper and from the local enthusiasm on the subject; 108 boys and 170 girls mentioned war news. 'Range news' found devotees 60 boys and 36 girls. 'Locals' appealed to 20 boys and 53 girls. 'Sports' were a favorite with boys, 53 boys and 4 girls expressing an interest in such items. Only one lonely boy from the eighth grade was candid enough to acknowledge an interest in the social column, and only 16 girls reported as regular readers of matters social. 'Editorials' were named by 12 boys and 9 girls. 'Front page' appealed to 53 boys and 69 girls. 'Headlines,' 'comics,' 'jokes,' etc., were each named by a few. One boy read 'Stocks,' another boy politics, and 1 boy and 5 girls enjoyed the advertisements."

Due to the fact that in some classes book reviews were almost due and students were not doing the customary amount of magazine reading, and to the failure of some of the magazines to appear at the usual time because of the printers' strike, and to one thing and another, we were unable to secure satisfactory information about the amount of magazine reading done during that week, but we did learn what magazines the students read regularly.

We have 305 1st year students;

204 2nd year students;

124 3rd year students;

66 4th year students;

699

Our Results

Ladies' Home Journal	244	Delineator	115
Literary Digest	170	Collier's	82
Motion Picture	158	American	79
Saturday Evening Post	152	Cosmopolitan	78
Photoplay	124	Pictorial Review	71
		American Boy	68

Youth's Companion	65		
McCall's	64		
Red Book	55	<i>Mr. Willett's Results</i>	
People's Home Journal	52	Literary Digest	160
Popular Science	51	Collier's	74
Metropolitan	47	Outlook	64
Everybody's	46	Saturday Evening Post	45
National Geographic	44	Youth's Companion	40
Leslie's	43	Ladies' Home Journal	38
Etude	41	American	33
McClure's	41	Leslie's	32
Country Gentleman	40	American Boy	30
Boy's Magazine	38	St. Nicholas	27
Ladies' World	32	World's Work	24
Popular Mechanics	31	Delineator	23
Red Cross	30	Review of Reviews	19
Physical Culture	27	Life	17
Scientific American	24	Woman's World	15
Popular Mechanics	60	Pictorial Review	11

In the quest for further information I made a special inquiry in my own classes. To fifty seniors and sixty-six juniors I put the following questions:

1. Name your favorite magazines, one for fiction, one for current events.
2. Name your favorite type of story.
3. Do you prefer the classic literature studied in English, or current literature, or do you like both, each in its own way?
4. Would you like to study more current literature in school?
5. Are there any special restrictions placed upon your reading of magazines and newspapers by your parents?
6. Has the high school influenced your reading of magazines and newspapers in any way and how?
7. How much reading of newspapers and magazines do you do at the Public Library?

The results from the replies were as follows:

1. Favorite Magazine.

<i>Third Year</i>		<i>Fourth Year</i>	
Saturday Evening Post.....	15	Literary Digest	23
Literary Digest	13	Saturday Evening Post	9
Ladies' Home Journal	8	Ladies' Home Journal	8
American Magazine	7	American Magazine	7
		McCall's	5
		Cosmopolitan	5

2. Favorite type of story.

Mystery	17	Mystery	17
Love	13	Love	12
Adventure	6	Adventure	8
Western	6	Western	5
Detective	4	Detective	6

3. Classic, Current, or both.

	<i>Classic</i>	<i>Current</i>	<i>Both</i>
3rd year	20	14	1
4th year	4	13	25
Total	24	27	26

4. Would you like to study more Current Literature in High School English?

<i>Third Year</i>	<i>Fourth Year</i>	<i>Total</i>
10	39	49

5. Are there any restrictions placed on your reading by your parents?

Only eight juniors replied in the affirmative, two mentioning the *Cosmopolitan*; one, the *Woman's Magazine*; two, trashy reading in general; one, *Hearst's*; and two said the only restriction was that they could not read until after their lessons were prepared.

Only twelve seniors replied in the affirmative; one was forbidden to read the *Cosmopolitan*, the others could read as they chose after their lessons were prepared.

6. Influence of H. S.

	<i>Third Year</i>	<i>Fourth Year</i>
General	7	12
English	7	6
History and Civics	5	2
Public Speaking		4
Higher type of fiction.....	1	6

7. Reading at Library.

	<i>Third Year</i>	<i>Fourth Year</i>	<i>Total</i>	<i>Grand Total</i>
		4	4	
Little	26	12	38	42

It seems, then, from the above results, that the average high school student is keeping in touch with the progress of affairs in the world at large in some measure at least. I do not think we ought to be perfectly satisfied, and sit back complacently in view of what we have already accomplished, for we evidently have had something to do with this interest in current topics—the students themselves and those to whom one speaks of the popularity of the *Literary Digest* for instance, attribute it to the fact that it has been used in the school, or at least subscribed for by a number of students under the direction of some of the English teachers.

May I insert a bit of personal experience here? At the beginning of last year some of my pupils asked me if I wouldn't send in their subscriptions to the *Digest* at the school rate (6 cents a copy), and so although I had no intentions then of using the magazine for class room work, took subscriptions for the magazine and found that there were over twenty pupils who wished to take it. It seems that one of the other teachers the year before had sent in subscriptions, and this created a desire on the part of the students for the magazine.

This year, at the opening of school I urged the pupils in my English classes to keep in touch with what was going on around them, not to "sleep through" the greatest period in the world's history, and suggested that as many as possible subscribe either to *Current Events*, the little weekly newspaper which can be obtained at the rate of 15 cents a semester per copy if there are 30 or more subscriptions, or to the *Literary Digest*. Twenty-four subscribed to *Current Events*, and since then nine more have added their names to the list, so popular has the little paper become. Nine decided to take the *Literary Digest*. This is a small beginning but it might go to show what may be accomplished by the teacher.

It seems as though we ought to do something more definite than we have done in the matter of fiction, perhaps, and not leave our boys and girls to wander unguided through the enticing maze of periodical literature, finding there "ways of pleasantness," some of them "wet with the last and lightest spray from the fountain of folly." The study of such books as Margaret Ashmun's "Modern Poetry and Prose" or the second series of Atlantic narratives, or some of the best short stories published each year would furnish high school students some definite standards by which to judge current magazine fiction.

The same subject was further discussed by O. F. Umbaugh of Harvey as follows.

Value of Magazines and Newspapers in English Classes

In the time granted me, I shall endeavor to state the principal reasons for using magazines and newspapers in English classes. With the present overcrowded curriculum and numerous vocational subjects waiting at the high school door for admission, and with the cost of public education going higher and higher, we ought to think very seriously before including new material in the high school. The new emphasis and responsibility placed on the schools by the war has compelled many changes in the subject matter included in the courses. It is therefore necessary that teachers of English either set up a defense for retaining pre-war material, or dispense with it and include material that is more important and that accomplishes the same results.

The teaching of magazines and newspapers gives training in the kind of reading most people do after school life. An editorial in the *Independent* substantiates this statement: "It is a fact that our educators must recognize that the greater part of the reading done nowadays, both for pleasure and for information, is in periodicals rather than books; and that the youthful mind needs guidance in this field even more than in any other. The child must be taught to discriminate between articles of value and pretentious trash, to exercise his judgment on new material which has not been authoritatively classed. The text book usually leaves off about the time the student was born, so the world he learns about is not the world he lives in. His success in after life depends upon his ability to understand the meaning of current events and rightly to appraise contemporary accounts of them and he should have training in this at school." Is it not as important that we teach pupils how to read magazines and newspapers as it is that we teach them their various vocations, or that we teach them how to study Latin? If education is training for complete living, pupils should be taught to read magazines and newspapers; for they should be an essential part of every man's life.

Magazines and newspapers supply material for the teaching of composition and rhetoric. The fact that they are seen by youngsters to be far more commonly in the hands of elders than books are and that the talk of the home, the street, and the shop is magazine and newspaper talk gives the pupil a natural interest; for he is enabled to participate in the conversations of older people. Periodicals furnish many exercises in both oral and written composition; such as brief drawing, debates, narrations, descriptions, editorials, exercises in journalism, in style, in word study, in book review, in verse, in business English, in prepared and extemporaneous speaking, and in memory drills. Mr. Gathany in the *Outlook* proves that the vocabulary of magazines is different from the vocabulary of the classics, that the average high school pupil lacks the vocabulary necessary to read magazines intelligently, and that periodicals provide pupils with an every-day working vocabulary. The natural discussion of the class room trains pupils to be accurate, free and easy in conversation and to cultivate an interesting and commanding style. Oral and written composition becomes a delight to the pupil and a pleasant accomplishment for the teacher.

Magazines and newspapers supply literature in the making. We have been training pupils in the motives, ideals, and traditions of the centuries of yore; while we have neglected to give them training in modern life. To quote Professor Wilson of Ohio University: "Why should students be engrossed in the study of matter of dead fact, of past history, and remain ignorant of the pulsating, ever-teeming life movements around them?" The importance of traditions should not be minimized; but it is far more important that a perspective of modern life should be given the pupil. Current literature contains current philosophy, modern ideals, and present life. Some modern writers of today

are the classics of tomorrow. If time permitted, hours could be spent in reading literature clipped from magazines of the last four years. Letters from the front were animated by a motive, a great purpose that dominated the lives of boys and girls who were enduring every sort of sacrifice and whose brothers were making their supreme sacrifice for the realization of a great ideal. What an opportunity to teach impelling motives and high ideals! In Flanders Fields the Poppies Grow touched the souls of the least imaginative boys and girls, for they themselves must catch the torch that brightens the path of humanity to righteousness, justice, and liberty. Pages could be filled with narratives of submarine encounters, air battles, raids in no-man's-land, and other war stories written, not by men of letters whose dust lies at rest in Westminster Abbey, but by common men of action whose lives were devoted to ideals of nations and whose souls were lighted by love of fellow men. Although highly imaginative, yet these stories are not the outgrowth of the imagination; they are the records of the deeds of men whose spirits moved in an ethereal world, on an agitated and vindictive sea, and in the valley of the shadow of death. What great opportunities were in this literature to cultivate facility in reading, to train the imagination in the field of reality, to create a taste for good literature, to fire the souls of boys and girls with a sacrificing love of fellow men, and to give them a vision of national ideals. Not all of the magazines and newspapers were of this wholesome character; but our young people must be taught to discriminate between the sensual and the spiritual, the demoralizing and the moralizing, the righteous and the unrighteous.

The use of magazines and newspapers will give training in Americanization. Where the future of a nation depends by the nature of the government so much on the citizens, the individual must know and live the nation's ideals; he must think on national problems; he must be taught to safeguard his thinking against politicians and propagandists; and he must have a national and international consciousness.

American ideals may be taught through the periodicals. The editor of *Democracy Today* very successfully gives training in democracy through a study of the speeches of statesmen. How much better it would be to glean these ideals from the utterances of statesmen and other leaders of society when we are living in the setting of these utterances! It is almost impossible to pick up a paper that does not refer to the principles and purposes of our democracy. Not only do we learn these ideals, but we see them put to a test in our national life; such, for instance, as in our Mexican policy, our attitude toward foreign countries, and our method of solving industrial problems. It is not only that pupils know these ideals, but that they live them in their daily thinking that is so important as to demand the reading of magazines and newspapers in English classes.

Citizens must be trained to solve the problems of the democracy whose destiny is by necessity committed to them. The conflict over the League of Nations furnishes us a good example of the greatest problem the individuals of this nation have ever been called upon to solve. Little interest in the League was manifest, indicating that people were not thinking about it, until after President Wilson made his tour for the purpose of educating people on the peace treaty, when sentiment and positive opinion became clearly evident. How much wealth in time and energy could have been saved for our country if teachers had expounded the peace treaty to their classes and thus created positive public sentiment! The teaching of magazines and newspapers arouses interest in the nation's problems and trains pupils to read and think about these problems.

The use of periodicals safe-guards our nation against politicians and propagandists, for it would train pupils to see the real problem back of the murky cloud of deception set up by special interests of all sorts. For instance, when President Wilson made his tour for the League of Nations, a barage of propaganda was sent up ahead of him by politicians to defeat his purpose. In the

discussion of the peace treaty certain senators and publicists attempted to keep the attention of the public on three relatively unimportant clauses in order to gain their own political ends. Pupils should be trained to detect the real issues in national problems and not to be deceived by politics and propaganda.

The teaching of magazines and newspapers will encourage heroic and public spirited service by men acting in a public capacity; for teachers, having cleared away the fog of politics and propaganda, would give honor where honor is due. For instance, political wrangles over the Shantung agreement and the proportion of votes in the League council have so clouded the whole treaty that we have failed to appreciate it as the greatest document of human rights, privileges, and liberty that the world has ever known; no other comparing with it either in its breadth of application, in the principles applied, or in the methods of applying these principles. Teachers should rightly appraise this document and give honor where it is due. Politics need not and should not be taught; but pupils should be taught to put aside politics and political prejudice, and propaganda in order that they may think clearly on the real question at issue and properly reward public service by servants of the public.

The use of magazines and newspapers would cultivate a national and international consciousness in pupils. Never in the history of America has been witnessed so much class consciousness—strikes, profiteering, monopolies, riots, graft, excessive dividends paid by large corporations,—all against the public interest. If this nation "conceived in liberty and dedicated to the proposition that all men are created equal" is to endure, the individual of all classes must be taught that his most solemn duty is to the nation, that in democracy there is no such thing as special privilege, that there can be no such thing as a warning to Congress that a measure must not pass because it conflicts with the interest of a class, that he must serve the public when sacrifice of class interest is necessary. Class discussions of national problem directs the pupils' thinking in terms of nationalism and internationalism and safe-guards the nation against the determinedness of classes.

The time that should be devoted to periodicals depends upon the importance of the work, the relation of the work to the life of the pupil, and the cost of teaching. Since the teaching of magazines and newspapers can be made to serve all the aims of the English department without additional cost and since it is more important than much of the work now being done in English in that it is so nearly related to life in and out of school, the danger is in giving too little time rather than too much time to magazine and newspaper work. The fourth year could very profitably be devoted entirely to this work, for the pupil has the proper historical background and intellectual maturity to be receptive to the ideals taught by such studies. Many schools make magazines and newspapers the basis of the composition and rhetoric work of the first three years and a few schools devote one entire year to periodicals.

The use of magazines and newspapers in English classes gives training in the kind of reading most people do after school life; it supplies valuable and interesting material for the teaching of oral and written composition; it supplies literature in the making and trains pupils to read with intelligence and discrimination; it teaches the principles of democracy, American ideals and purposes, and how to solve national problems; and it safeguards our nation against politicians, propagandists, and class determinedness by arousing a national and international consciousness in pupils. My plea is for material interesting to the pupil and helpful to the teacher, for training into life and not out of it, for current literature with modern philosophy and ideals. My plea for the use of magazines and newspapers is a plea for the youth of today as the guardians of democracy tomorrow, for the teacher as the rightful leader of society, and for America as the champion of human liberty, peace, justice, and righteousness.

Some devices for oral English were suggested by Mr. L. H. Burroughs of Rockford, whose paper is here printed.

Co-operation of Public Speaking with Freshman Oral English in Rockford, Illinois, High School

At a general meeting of the Northern Illinois Teachers' Association, Dr. Snedden of Columbia University said in substance that modern educators should pay more attention to silent reading and far less attention to the vocal interpretation of the printed page. I admit at the outset that this is the age of silent reading and of a calm, equitable poise of judgment. This is the age in which a given measure must run the gauntlet of a committee report and of public discussion. I, too, admit that this is the age in which a hearer sleeps on a speech; reads it in morning newspaper; reads it again in the weekly periodical (reads both sides, if you please, and then decides); and then feels the responsibility for his vote, and must be able to justify it before his constituents. Yes, this is the age of silent reading and in the words of Bill Nye, this is the age in which "you must think your own thinks." Dr. Snedden won his point in Rockford, but it is a satisfaction for the advocates of oral reading to know that he did it thru the medium of the spoken word; and like the orators of Greece and Rome he addressed an audience that was to act immediately upon the convictions and emotions he produced.

Altho this is the age of self-determined public thought and action thru the medium of the daily newspaper and the periodical, we must never neglect oral reading in the high schools. In his attack upon oral reading Dr. Snedden asked us in Rockford: "Which method do we use the more in every day life—oral or silent reading?" The answer was self evident. However, if Dr. Snedden had asked which of the two methods would develop a mastery of the spoken word, the audience would have the answer, oral reading.

When the English department of the Rockford, Illinois, High School realized that the average boy or girl, tho proficient in silent reading, could not impart his interpretation of the printed page to his fellow pupils, that he or she could not be heard by pupils sitting in seats adjacent to the reader; that the tongue, lips, teeth, palate, vocal organs, and diaphragm were, figurately speaking, if you please, vestigial organs when called upon to function in oral readings, Miss Grace Wilbur, head of the English Department, and I organized a course of Oral Reading in Freshman English. As teacher of Public Speaking and supervisor of the work, I want to show how Public Speaking co-operates with Freshman oral English in Rockford, Illinois, High School.

The following courses are offered in Public Speaking in Rockford: Oratory I, Oratory II, Oratory III, Dramatic Art, and Argumentation. Classes in Oratory and Dramatic Art meet twice each week and pupils receive five-tenths credit; classes in Argumentation meet five times each week and pupils receive one credit. I have two classes in Oratory I which meet on Monday and Wednesday the first and fifth periods, respectively; one class in Oratory II which meets Tuesday and Thursday the first period; one class in Dramatic Art which meets Monday and Thursday the seventh period; and one class in Argumentation which meets each day in the week.

Since my other periods are vacant during the day, I have thru this arrangement every hour but the sixth open Friday for my course in Freshman oral reading.

Miss Wilbur, however, has arranged the program of Freshman English pupils of the sixth period so they can meet with me at a different hour and with another class.

There are nineteen divisions of English I (classics and composition) this term and they meet in the Public Speaking room with their English teachers each Friday and in the following periods and groups: first period, three classes; second period, three classes; third period, three classes; fourth period, four classes; fifth period, three classes; and seventh period, two classes. There are two English I classes which meet the sixth period; but, since they conflict with my class in argumentation, they are sent to a class in oral reading

when they have a study period. By this cooperative program I am able to reach about five hundred pupils in English I in oral reading. The requirements for each Friday are standardized and each pupil receives a grade for that day; and is throughout the period under the supervision of his English teacher.

The Board of Education is publishing thru the cooperation of our new printing department a little book written by me called "The Spoken Word." The book will be off the press in a few weeks and it will be sold to each pupil for a very nominal cost. In the interim I have been giving hectograph sheets as a text.

I shall now discuss the contents of the syllabus and my method of personal and concert instruction. Chapter I covers waist breathing, throat relaxation, and tone direction. Briefly, the power that produces the tone is at the waist—the diaphragm; the instrument of the tone is in the throat—the larynx; the quality of tone, after its formation depends upon the expansion of the pharynx and the manner in which the tone is directed past the teeth and lips. The only noticeable action in the production of tone should be that of the diaphragm. No movement or exertion, whatever, should be felt at the throat or chest. In order to make this general principle of waist breathing function in oral reading, I give my pupils vocal and physical exercises in breathing. Here is a typical example: Fill the lungs by an outward stroke of the waist muscle and exhale the air upon the liquid sounds, m, n, l, r, n, and ng.

In throat relaxation it is imperative to make the passage for the sound from the larynx to the lips, as round, open, and tube-like as possible. Thus, to bring the sound to the lips it is necessary to lower the tongue at the base, expand the pharynx, and raise the veil of the palate. I then give exercises in class with these objects in view; first, to raise the veil of the palate; second, to depress and hollow the base of the tongue; and third, to fully expand the entire cavity of the pharynx.

Much depends upon the manner in which the tones pass the teeth and lips. The teeth are hard and firm and if the sound strides then it will have a clear metallic ring; but, if the lips are closed so as to cover the teeth, the sound will be dull, muffled, and the consonants indistinct. Also, if the sounds strike the upper teeth only, the tones will be nasal and the consonants confused.

Chapter II is entitled Articulation of Consonant Sounds. There are six distinct classes of consonant sounds: first, lip sounds (P-B-M-W-Wh); second, lip and teeth sounds (F-V); third, tongue and teeth sounds (T-D-Th-Ch-Sh-J-S); fourth, tongue and palate sounds (K-G-L-R-Y); fifth, nasal tones (N-Ng); and sixth, the glottic tone (H). Each of the six combinations is followed by a large list of exercises in combination with vowels, with other consonant combinations, with words, and with tongue twisting sentences.

Chapter III deals with the diacritical marks. Our aim in this chapter is to teach the pupils to designate the various sounds of vowels and consonants. The following is the list of the diacritical marks used in the syllabus: macron, breve, dieresis, semi-dieresis, caret and tilde. This list is followed by exercises in equivalent vowels, and substitutes, markings of sub-vocals and aspirates.

These graded lessons in vocal and consonant sounds, if well mastered, will acquaint the pupil with many of his own errors in pronunciation, cultivate his ear to distinguish shades of vowel and consonant sounds, and train his organs of speech to greater accuracy in articulation.

This list is followed by words that are mispronounced by a wrong division of the syllables; words that are mispronounced by inserting extra syllables or letters; words that are mispronounced by omitting syllables or letters; words frequently mispronounced by placing the accent on the wrong syllable; words that are often pronounced with wrong or unpreferred vowel sounds; words

that are often pronounced with wrong or unpreferred consonant sounds; and words that are sometimes mispronounced by sounding silent letters.

With these excerpts from my syllabus before you it is evident that a very large part of the work in Freshman oral reading is based upon fundamental mechanics of voice. It is not my purpose to train these pupils to master the finer qualities of interpretation of literature. I am not teaching them to become public readers or dramatic artists. I am, however, trying to teach them to speak the English language technically correct.

The last chapter of the syllabus is entitled grouping. Grouping may be defined as the division of a sentence into its thought units by means of pauses. By thought unit is meant a single word, or collection of words which are necessarily taken together in order to form a single idea. A thought unit is not necessarily a combination of words, including subject and predicate, and making complete thought in a grammatical sense. Examples of grouping in co-ordination, subordination, inversion, denotation, and connotation are given from excerpts of Standard literature.

The paper read by Miss Ida Bond of Mount Vernon contained an interesting account of results attained in that high school, and is here reproduced.

The High School Team—Oral English and the High School Spirit

Any one interested in Oral English will not fail to realize what an opportunity the high school activities outside the class room furnish in the furtherance of better oral English. As a rule the student takes part in the so-called "outside" activities because he is impelled to do so by genuine interest. He will be less likely then to regard the accompanying work as a task to be accomplished, and his participation in the activity will be largely spontaneous. The oral expression of this self-activity will result in direct and effective speaking. If then as Miss Ward says, the purpose of oral English is "to aid in preparing pupils to stand when occasion demands, and say naturally, fearlessly, and agreeably, as well as simply and clearly, whatever they have to say", failure to utilize the activities outside of the class room to advance the cause of oral English is a fearful waste in education.

Although the term Oral English is an elastic one, the end to be attained is definite—a clear expression of personal opinion and a forceful earnest manner. Many devices may be employed as means to this end, and each device is valuable in so far as it varies the work and produces the desired result.

I shall mention in this paper some devices used in our high school which are found to be most effective, and shall explain only the distinctive features.

The "outside activities" in our school fall naturally into two groups: (1) those comprising the more systematized organizations, and (2) those less formally organized which thrive under committee management. The activities belonging to the first group, such as the athletic and the literary societies, dramatic and debating clubs, and various class organizations, have their place in every school and are conducted on similar lines wherever maintained. I need, therefore, merely mention them. But among our organizations are two which have proved themselves invaluable means to promote oral expression. These are The High School League and The Debating League.

The High School League is an organization of the faculty and the student body for the purpose of co-operation between the faculty and the students of the Mt. Vernon Township High School. The executive committee of the League is called the Council, and consists of the following members: the principal of the Township High School; two other members of the faculty, chosen by the faculty; the president and the secretary of each class; and five

additional members, two of whom are chosen by the senior class, two by the junior class, and one by the sophomore class. The Council has its own internal organization, its officers consisting of a chairman, a vice-chairman, and a secretary. Meetings are held at the discretion of the chairman, whenever affairs arise which concern the school organization. The meetings of the Council are so decidedly interesting and inspiring that the faculty members consider themselves fortunate to be members of the Council. The attitude of the student members is serious and earnest. Each seems to feel the importance of his position in the school as councillor. As discussion on all questions is open, and each has the privilege of bringing before the council measures which he considers helpful to the school as a whole or in part, questions in which each is personally interested, the talks are clear, animated, and forceful. What live student could keep from talking on such topics as:

1. Should dancing in the town by promiscuous crowds be conducted under the name of High School Dances?
2. Should the members of the high school musical organizations, the High School Band in particular, be allowed credit for their work in music?
3. What is the best system of fire drills for our school to adopt, considering the architectural plan of the building, to get the students out of the building?

On the morning following a council meeting during the preliminary period the High School League holds its session. At this meeting some member of the Council presides. Reports are made to the student body by the student members of the Council. The questions are thrown open for general discussion, action is taken on such measures as require immediate action, or committees are appointed. The frank expression of opinion and business-like manner of these young people arouse the admiration of visitors and instructors. Even the most diffident pupil gains the power to express himself in a natural manner before that most critical of audiences, his own schoolmates.

The other organization, The Debating League, makes a different appeal to the student. Our school and two nearby schools have for several years maintained an association for the promotion of interest in debate as a form of composition in the schools. One formal debate is held each year, a debate taking place on the same night in each of the cities in which the respective schools are located. Each school has a debating team, the affirmative members of which in each case stay at home to meet the negative team of one of the other schools. The various "try outs" and preliminary debates are of incalculable value not only to those who participate in the activity, but to the whole student body. Since the final "try-out" is held before the entire school, the speakers get the inspiration to be derived from a large and interested audience, while the other students, hearing some of their number set forth their ideas in a clear and orderly fashion with fearlessness, become interested in this important phase of expression, and as a result more of the students try to make the team each year. Last year sixteen entered the preliminary debates, an increase of four over the preceding year.

The device, however, which I consider most effective and far reaching is the regulation and management of school activities by means of committees. No single device can draw so many different students into the activities about them. The very fact that the student himself does not realize that he has been appointed to a position of responsibility as a means to draw him into the life about him, or to overcome his diffidence, or to give him confidence makes **the success of the device** as a means to an end almost certain. Each member of a committee must interview others, make plans, arrange his ideas in an orderly way, and make reports to the larger organization of which he is a part. A mere mention of some of these committees will serve to show the possibilities in such a device to further oral expression among the greatest number of students.

There may be a number of standing committees; such as (1) the executive committee or Council with its thirteen student members, (2) a committee to provide entertainment for the preliminary or chapel period, consisting of that of music with three student members, lectures and readings with four student members; (3) the operetta and senior class play with their almost unlimited scope; and (4) the committee on gifts and memorials with four student members.

"Better English Week" drew seventy-five students into the vortex of out of class activities. There was the poster committee, the programme committee, the charade committee, and the publicity committee. To give publicity to the movement ten students were sent to give four minute speeches at the different ward schools in the town. A mock trial and a contest gave opportunity for others to show their power to face an audience naturally.

Our annual "Home Coming", held on December 23, is utilized to improve spoken English. The nine student members of the committee and the student body wish to appear well before the former students. Consequently they plan their part in the day's exercises, carefully.

Finally much may be accomplished for oral English through the social activities of the school. Here the coöperation between oral English and the school spirit is plainly seen. In order that "all work and no play" may not produce the proverbial result and that sociability and democracy may be promoted among our students, we try to furnish suitable social diversion for them throughout the year. This takes the form of a general school picnic in the fall and a circus in the spring. Each class has a party, attended by members of the class giving the party and the entire faculty. These are jolly get-together occasions. The high school social season comes to an end with the receptions and affairs connected with the graduating exercises.

To illustrate how the social functions may achieve the purposes of oral English, I shall mention one occasion in which the whole student body took part and one in which a single class participated.

The picnic this year, because of the inclemency of the weather, had to be an indoor affair. Except for the facts that it was held in the gymnasium, and that the nature of the refreshments had to be changed somewhat, the affair was managed just as it had been planned. Three members of the faculty and eight students acted as a committee to plan and manage the picnic. They called on numerous students to help, and so the committee was trebled in number. On the Friday of the picnic school closed at three, and all went to the gymnasium. Here members of the committee took charge of affairs. Each class had to furnish part of the entertainment; the Freshman and Sophomore classes acted out charades, the former names of birds, the latter titles of books; the Junior class gave a preliminary period, burlesquing the entertainment features with its lectures, readings, and musical numbers; the senior class provided a gipsy, who told the fortunes of the members of the faculty to the delight of the whole student assemblage. Could any exercise in a public speaking class appeal so directly to speaker and to audience? Even if the talks had been absolutely impromptu, some good would have been derived simply from appearing before such an audience. But when the speeches are carefully prepared, as these were, and the pupil trained in delivery, the occasion becomes invaluable to teacher and pupil.

The Freshman party was given on Friday, November 14th. It was in nature a combination of a fall festival and a hallowe'en affair. Features of the entertainment which especially concern us were: a play, "The Haunted Gate", the cauldron scene from "Macbeth" in which the witches told the fortunes of certain guests, and the story of the opera "Il Trovatore" told by two Freshman girls and illustrated by them by means of records from the opera. Now we all know how difficult it is to overcome the diffidence of the Freshman early in the year. But largely due to the patience of the teacher who had

charge of the programme, the work of all who took part was of such a style as would do credit to any class.

In concluding I wish to emphasize the importance of making good use of the school spirit which if not properly directed frequently develops into a thing which cannot be controlled and which really undermines the morale of the school. Fortunately we deal with young people who are very much alive, young people who are interested in things about them. It is our part as teachers tactfully and wisely to provide suitable outlets for the energy which otherwise would find an outlet for itself. The activities outside of the class room serve not only as an outlet for the energy of the student, but also as a means of further development of the individual. The coöperation of the student body and the members of the faculty in a natural matter-of-course way promotes the school spirit in such a manner that unconsciously the spirit of the school permeates every phase of the school's activity. It is in the spontaneous expression of this spirit of the school that the student is most earnest and that his words "vibrate with the thought they carry". Let us then utilize to their fullest extent the activities outside the class room for the furtherance of the high school team—school spirit and oral English.

Other contributions to the discussion were those of Miss Eva Mitchell of Monmouth and Miss Bess Baker of Maywood. The latter distributed the following outline of methods which have been used successfully.

Classroom Devices in Oral English

I. Introduction.

- A. Scope of subject—Freshmen to Seniors.
- B. Three-fold aim in Oral English.
 1. Comfortable presence—poise.
 2. Acceptable delivery.
 3. Something to deliver—Subject-matter.
- C. Essential to accomplish aim—proper attitude toward audience, self, and subject matter.

II. Discussion.

- A. Application to three-fold aim:
 1. Comfortable presence.
 - a. Well arranged room.
 - b. Long pauses preceding and at close of speech.
 - c. "Upward-feeling."
 2. Acceptable delivery.
 - a. Exercises in breathing, vocalization, etc.
 - b. Pronunciation matches.
 - c. Awakening exercises.
 - d. Direct address to individuals in class.
 - e. Use of mirror.
 - f. Class criticism—each student supplied with sheet-mimeographed copy with following plan:

Name

Critic

- | | |
|---------------------|------------------------------------|
| I. Posture. | IV. Preparation of subject matter. |
| II. Enunciation. | V. Errors and corrections. |
| III. Pronunciation. | |

3. Subject-matter:

a. Talks—Primary essential, personal interests.

- (1) Illustrated talks—using blackboard; magazines; cartoons; Victrola; nature materials; materials from wood-turning, etc.
- (2) Occasional speeches.
- (3) Toasts at imaginary banquet on special days.
- (4) Conversation.
- (5) Reports of speeches heard, plays seen, books read.

b. Reading.

- (1) Use reader's stand—class *not* follow in books.
- (2) Analyze for grouping.
- (3) React physically to each thought before saying it.

c. Memory work and dramatization.

- (1) Definite lists for each year, printed and gummed for pasting in note-books.
- (2) Long conversational selections divided.
- (3) Special memory — at least one a semester — schedule posted.
- (4) Much acting, assign groups for scenes—appoint leaders—post schedule.

d. Informal debates.

- (1) Mock parliament.

B. Some plans of assignment.

1. Monday program—class divided; choice announced in advance from varied list posted; hold in auditorium or organize as club.
2. One five minute speech a day—definite schedule posted.

III. Conclusion.

No amount of devices effective without an attitude of sympathetic interest in audience, of a realization of self, and of keen interest in subject matter.

At the opening of the afternoon session the nominating committee reported and the following officers were elected:

President—Miss Florence Skeffington of Charleston.

Secretary—E. C. Baldwin of the University.

Treasurer—Miss Zada Thornsburg of Urbana.

Chairman of the Executive Committee—H. D. Widger of Charleston.

New members of the executive committee—Miss Bess Baker of Maywood, Miss Olive Bear of Decatur.

Delegate to the National Council—H. G. Paul of the University.

The next topic discussed was "Better English Week—What Next?" Miss Alice Tombaugh of Pontiac opened the discussion as follows:

Better English Week: What Next?

There are many people throughout our country who have long realized the great need of improvement in our American speech. However, as is so often the case, what was everyones business was no one's business. This waiting for some other person to take the initiative reminds me of these lines taken from B. L. T.'s column and called, "Pass It On":

"The college president is quoted as saying:

'Such rawness in a student is a shame

But lack of preparation is to blame.'

"High school principal:

'Good heavens! What credulity! The boy's a fool.

The fault, of course, is with the grammar school.'

"Grammar principal:

'Poor kindergarten blockhead! And they call
That preparation! Worse than none at all.'

"Kindergarten teacher:

'Never such lack of training did I see
What sort of person can the mother be!'

"Mother:

'You stupid child! But then, you're not to blame.
Your father's family are all the same.'

Although much good work has been done in the past I feel confident that the work in the future will be more effective because of the organized movement recently effected. With the schools, the Women's Clubs and various other organizations of the country giving the campaign for better speech valuable publicity, the effect should be widespread and of a permanent value. With the teachers of English taking the lead in the matter of speech reform it will be necessary for us to adopt some definite plans. I have outlined three ways in which I think we, in our High School in Pontiac, can approach the work:

1. We must win the cooperation of the pupil.
2. Our work cannot be fully effective unless home influences are brought to bear upon the pupil.
3. We must have the assistance of the other departments in the school.

I do not believe there is any great difficulty in obtaining the cooperation of the students. On the whole they seem anxious to improve their language. We found that they responded well in the work of Better Speech Week, that they seemed glad to make posters, to take part in plays, yes, and even to write them, for we had several plays and poems written for the occasion, and greatest of all, to work for more correct, definite, and effective speech.

We feel that our Better Speech Week was a success, that the children (and the teachers) were not only made to realize their mistakes, but were, on the whole, sincerely trying to overcome them. But—the next question is—how best prolong the effects of Better Speech Week? How make its influence lasting? I submitted this question to the members of my English classes on the last day of our Better Speech Week. The answers were interesting, enlightening, too, to the teacher, and contained, I feel, some really worth-while suggestions. I had asked that these papers be unsigned, believing that, by so doing, the answers would more truly represent the real thoughts of the pupils.

The suggestion offered most often was that of working on one troublesome error at a time, conquering that before attacking another. This plan had been brought to their minds in an assembly talk by one of the teachers, and evidently met with their approval.

Most of the pupils seem to be of the opinion that they should first take themselves in hand and correct their own speech before trying to reform others. However, nearly all of the pupils seem to feel that they *should* be corrected and should correct others in turn, that they really owe this to each other. The general opinion seemed to prevail that no teacher should permit any grammatical error to go uncorrected, either in oral or in written work. The idea of having a class critic seemed to appeal to many. Some thought it advisable to continue the work of Better Speech Week by keeping posters displayed and by having special talks and plays bearing on that subject. Imagine my surprise, first when I thought they had been having a rather severe dose of grammar, to find pupils asking that they be given further study of grammar, and more written and oral work. Of course, not all of the plans suggested by the pupils were feasible. For example, one child suggested the adoption of a system whereby one point was deducted from the monthly grade for each grammatical error made. I am still wondering how far below zero some of them would go!

Our most difficult task is, not to have correct speech used in the class room,—that is not hard to attain—but to have the speech outside of school improved as well, so that the child will not use one language in school and another, outside. The ideal way is to have instruction continued in the home. That, however, is not so easily acquired. I have been greatly interested in reading in the last bulletin sent out by the Illinois Association of Teachers of English of the plans for home cooperation carried out in St. Louis. I shall be glad to hear more of their work and of similar plans used elsewhere.

Although, of course, the greatest part of the work in speech improvement must necessarily be done by the teachers of English, I feel that the work done along that line by teachers of other subjects has a great influence, perhaps even greater than that of the English teachers, since that is supposed to be our business.

During our Better Speech Week the cooperation of other departments had a great deal to do in making it a success. When we get to the point where the algebra teacher demands clear, concise English; when the History teacher refuses to accept papers written in slovenly, ungrammatical form, then, and not until then, shall we be able to raise the standards of speech.

And we English teachers, what can we do? Following the advice set forth for the pupils, let us look to our own speech, as well as help others improve theirs. Few of us talk as well as we should, not even as well as we could, with a very little thought and effort. Let us set higher standards for ourselves, and then let us do our utmost to attain these standards.

Other participants in the discussion were Professor H. G. Paul and Miss Jennie Sturgeon of Rock Island. The latter's paper is reproduced.

Better Speech Week—What Next?

Better Speech Week has aimed to do two things: to arouse a sentiment for better speech and to point out the lines along which our speech needs improvement. In solving the problem of "What Next," it seems to me that one of the first things to do is, out of the mass of faults and errors emphasized by Better Speech Week, to select the most offensive and direct our attack against these, instead of making a drive along the whole front. If we seek too much in the present condition of our speech, I am afraid that we shall scatter effort and so accomplish less than we might. Just what weaknesses to attack first will, as a matter of course, vary with localities and communities, and with individual opinion.

There is a tendency, in my judgment, to lay unnecessary insistence upon the use of certain grammatical forms, which at best, even among educated people, have a more or less precarious existence; and some day may pass away entirely. I do not advocate the use of their ungrammatical substitutes; but I do believe that in comparison with other evils, they are quite innocent, and may, while we deal with worse crimes, be temporarily ignored. I refer to such expressions as "he don't," "who did you see?" "they" after the pronoun "one" when the gender of one is common; "it was me," and one or two others.

Lest I be misunderstood, let me repeat that I do not advise the use of these forms, but suggest that under the stress of greater evils they be allowed to pass in speech as comparatively harmless. For such they are when viewed beside errors like the following: "I had ought to of went;" "I never done nothin'"; "have you'se any good books?"; "I have wrote that already;" and more, with which you are only too familiar. Let us center our attack on errors like these.

Grammatical errors, however, form only one class of the vices of speech against which we are opposing our forces. However much one may deplore ungrammatical speech, a failure to use the proper forms is very often due to

ignorance and lack of education, and may characterize speech which is otherwise cleancut and forceful; for instance, a year or so ago I had a boy in a freshman class in English, whose speech habits from childhood made it extremely difficult for him to remember to say "saw" instead of "seen"; "came" instead of "come"; "had gone" for "had went"; yet who was the best story-teller in the class, and to whose oral themes it was always a pleasure to listen.

But there is a form of speech which is not due merely to ignorance and lack of training; it has a moral quality; it is an expression of character. It represents shallowness of mind; coarseness of feeling; lack of self-respect. It is a mixture of ungrammatical forms, cheap slang, and grotesque pronunciation. It is a part of the tendency in modern life toward gaudiness, vulgarity, and immodesty. It is jazz, and rouge, and the shimmy. This type of speech is being popularized.

Let me quote a few samples from a story in one of our standard magazines: "Gosh, I hope that fellow does stick around. He has me goin' already." "Oh say, kiddo, it was grand! It was elegant; honest it was." "Gee that dame got my goat." The next is quoted from a pupil's speech: "Listen, are yuh goin' to be at home tuhnight?" "Naw, I gotta a date with the swellest little Jane yuh ever see." Here also is a mild example which appeared as an advertisement in our own high school paper:

Hee—Wanna go t' the movies?"

Shee—No.

Hee—I'll blow to a soda.

Shee—Too cold.

Hee—'R we cud take along a box of Gansert's chocolates.

Shee—Is my hat on straight?

The advertising manager said to me, "That's a good one, isn't it?" Why did he think so? Because that kind of speech is featured as clever in the ten cent songs he sings; in the vaudeville sketches he listens to; and in the stories he reads. Against such speech, I believe, we must fight with our backs to the wall. Other needs should receive attention, of course: enunciation; pronunciation; clearness, etc. I am only suggesting that the full force of our attack be made just now against the more serious forms of grammatical error and against cheap coarseness.

The remainder of the problem of "What Next" seems to resolve itself into these two parts: How can we keep alive the spark of sentiment for better speech which we have struck? and what tactics can we use to secure the desired improvement?

To hold the interest aroused by Better English Week and to direct it into definite accomplishment, we may make a more extended application of the methods employed during the week's campaign; that is, publicity; faculty, student, and community cooperation; and class room activities. I am using the word "publicity" in its somewhat widened modern sense, which includes all those devices employed in advertising or promoting a project or idea. One of the words which the war has made a term of every day speech, because so deeply have we been made aware of the power it symbolizes, is the word propaganda. If we are to give anything like permanency to the sentiment we have succeeded in stirring, we must unceasingly propagate the tenets of our Good English faith; and one of the best means of doing this is by publicity. We must forever keep before the pupils in some tangible form the standards for which we are struggling; the value of these standards, and the means of attaining them; but also we must do so with a continual freshness of treatment that will command their renewed attention.

During Better Speech Week for the purpose of publicity we employed posters, placards, bulletins, and the school paper. The first of these is of doubtful value as a means of maintaining interest. Having startled attention, the poster has usually fulfilled its mission. At intervals new posters may be exhibited, or old ones may be brought forth again after the first vivid memory

of them has become dulled, and be used to good effect to restimulate flagging interest; but a continuous use of the poster will fail of its object.

But there are two other means of sustaining this awakened sensibility to better speech and of propagating the methods for improvement. These are the bulletin and the school paper. I do not need to remark that this is neither a novel nor an original suggestion. I am going to offer, however, a few ideas which have occurred to me as ways to employ these mediums effectively.

What can we do with the school paper? Much, especially if it is edited by a class in Journalism under the constant instruction and supervision of a teacher. First, a reasonably high standard of English may be set for the paper and be insisted upon,—I say “reasonably” for it is not well to be over precise.—It is hard sometimes to combat the idea that a write-up, to be lively and interesting, must be slangy and somewhat lurid in diction; but one step toward right speech is good English in the high school paper. However, it is more particularly with the paper as a medium of propaganda that I am concerned. I can best explain how it may be used for this purpose by taking my own high school paper as an illustration. A special edition of the paper featured Better Speech Week. This week’s issue contains an editorial commenting on the necessity of continuing the efforts made during that week. This is only the beginning of a follow-up campaign which we expect to carry through every issue this year. Just what form this publicity will take, I cannot definitely state. This is to be decided for each issue by a committee of the editorial staff. This committee told me yesterday that for the next issue they were writing an article to be illustrated by cartoons.

The system of propaganda by bulletin has been so frequently and so ably presented that there is little more to be said. This method is not an expensive project in those schools where there is a class in printing that can do the work, the only cost then being that of the stock. In our school we prefer to call such a bulletin a “News Letter”. These letters or bulletins, which are distributed free, have the advantage over the school paper of reaching every pupil, and hence of wider distribution in the homes. I have just a word or two of suggestion to offer in regard to the content of these bulletins. One of the important things we learned about propaganda from our German enemies was not to work too much in the open. Their methods were insidious; ours may at least be artful. The Bulletin or News Letter has, we must remember, a double purpose; to arouse and sustain a desire for better speech and to give definite information concerning the means of acquiring it. Some of the bulletins should concern themselves wholly with the first purpose. To accomplish this object, the message should not be made too obvious; we should avoid pointing the moral. A sketch or story which makes a point but is offered without comment may serve to arouse curiosity. An informal essay on some subject related to the idea of good speech, suggestive but not didactic in tone; quoted passages from literature revealing the value of good speech, and various other devices may serve to keep interest alert. Other bulletins should make more direct appeal and give very specific means of improvement. The plan of the Columbia School, St. Louis, as outlined in the last English Bulletin of this association is an excellent guide for this latter purpose.

But no amount of endeavor upon the part of the English teachers will take the place of student effort and initiative. If the active cooperation of at least an influential minority of the pupils can be obtained to carry on a ceaseless drive, more rapid progress will be made. But this again is not a new idea. Various articles in the English Journal and elsewhere have given suggestions for Good English Clubs of one kind and another. At the last meeting of the National Council it was announced that the Speech Committee was preparing to launch the project of a Junior English Council along the lines of the Junior Red Cross. In reply to a recent letter of inquiry which I wrote to Miss Crompton, secretary of the committee, she stated that she was to present the whole matter of Better English Clubs before the Boston meeting;

but that as yet no definite policy of organization for a Junior Council had been formulated.

In view of these facts it would be presumptuous in me to make any definite proposal for such a plan. I feel at liberty to say, however, that I like the idea of the council, better than that of the club. Many schools already make use of a Student Council, cooperating with the principal and teachers in certain matters pertaining to administration and to the social life of the school. An English Council in each high school based on the same principles as the Student Council, the principles of initiative and responsibility, could do most effective work in raising the standard of speech in the school. The activities of a club, while of service, are usually limited to its own circle. An English Council of this character could take care of much of the publicity work I have outlined. Original ideas furnished by the students during Better Speech Week leave little doubt that they would readily find ways and means for promoting the object of such an organization.

Then, we must have the cooperation of the other members of the faculty; first, in raising the standard of their own speech; and second, in helping to raise that of the pupils. At least once a year our English department has issued a bulletin to the faculty asking for this cooperation and definitely stating certain faults and errors of speech which they were to assist the department to eradicate. But this has proved very insufficient. There should be some method by which the English teachers can secure some definite accounting of the English used by the pupils in their other classes, such information to be duly considered in estimating their grade in English.

Systems for such English service from other departments have been successfully tried in several schools. I believe Freeport is one of these. The chief difficulty is an administrative one. Almost all teachers are glad to help if it does not materially add to the work with which they are nearly always already overburdened. We tried a partial experiment in this cooperative service last year, but it was not very satisfactory. We have not, however, given up the idea. This is, I believe, one of the important phases of our problem.

Of community cooperation, I shall not speak because the next topic on the program deals with this side of our question.

Time will hardly permit me to discuss in detail the methods of carrying on our follow-up campaign in the class rooms. The many oral devices, some of which were so interestingly presented this morning, afford opportunities for drill in the forming of good speech habits. But I believe we must make some plan for greater concentration of effort in the first year classes. In Rock Island we are at present trying out this plan: our first year pupils are divided into A, B, and C sections, according to the ranking given them by their eighth grade teachers upon their entrance into high school. This sectioning affords us opportunity to give special attention to individual needs both in written and oral composition, and to set more easily and justly definite minimum requirements for each class.

Further, our course for the first semester is purely a composition course, with at least two days a week given to practice in oral composition. One of these two days the class goes to the instructor in public speaking. This instructor sends to the head of the department each week a bulletin of the work to be done that week. Copies of this are made and distributed to the first year teachers who seek to correlate their oral work with hers. That one day a week is not much, we are only too well aware, but it is an opening wedge. The best English I ever heard used by pupils in a high school I heard in a high school in the East where the first year course in English consisted of five hours a week under the instruction of the teacher of oral expression. This is perhaps a little extreme; but by sectioning, in the first year according to the pupil's ability and needs, and then putting at least a part of the oral work into the hands of an especially trained teacher, better results can be obtained.

Many schools will not have the facilities to act on all these suggestions; some will be able to do much more extensive work. We can all, however, set for ourselves a limited and definite goal of accomplishment; and perhaps it may be of service to remember the general methods of procedure which I have outlined: publicity; student, faculty and community cooperation; and class room activity.

The final topic listed was "The High School and Community English." Miss Florence Crocker of LaSalle presented the following paper on this topic:

The High School and Community English

It is with a feeling that the English department of the High School should keep pace with the times in the new movement of socialization that I put before you the topic: Community English. We should not allow Civics, Public Health and Social Service in all its branches to take precedence over a work of as vital importance as the awakening of a linguistic consciousness among the families of our students, and among those families never reached directly through the High School. We should discover and root out the seated solecisms of our own community.

The question resolves itself into three questions: First, What are the reasons for the speech misdemeanors of a particular locality? Second, How should we teach to save the chief offenders? Third, What should be our larger conception in regard to the importance of standardizing "Community English?" For the discussion of the last question, I am indebted to Mr. McCormack, our principal, at La Salle, who has thought deeply upon language problems for a long time and who regrets that he was unable to present the entire subject to you today.

In taking up the first question I will give our local conditions simply as indicative of certain tendencies throughout the state. In our High School only one-fourth of the students come from American homes. Of the remaining three-fourths, there are over a hundred Germans, just one hundred English from the coal mining town of Oglesby, and the rest Polish and Irish with a wee bit of Scotch and "un poco Italiano." It may appear a paradox to say that in some respects the English are the hardest to teach English. Their inherent difficulty lies in verbs. A valedictorian of one of our classes still says "I done it." In their daily themes, their verbs are generally tenseless and their participles dangling. Their speech is full of improper pronunciations and wrong forms of words.

The Germans, on the other hand, have a language sense, though some of their idioms become idiocies when transferred into English. Their verb "sollen" in English becomes "should." They say, "He should have died," when they mean "He is reported to have died." Again they say, of the beard, "Do you want them trimmed?" "Her hairs were brown," "They have to make a light," "Come here once," "I first had my dinner at one o'clock," "The chalk is all" for "all gone." These Teutonisms seem more ingrafted on the language than do any local Gallicisms or Slavisms. However, there arises a new problem connected with the teaching of the Polish and the Irish, partly connected with their early training. They are perfect penmen with the beauty, however, of many sentences marred by the Comma Splice. Minor difficulties give place to greater, inherent faults of construction. In a whole composition there is often a lack of logic, the sentences being kaleidoscopic images rather than parts of a whole.

After all, we may make a mistake in separating too distinctly the errors by nationalities, for the interplay of speech makes the faults rather general. There are the errors that "creep and intrude" through the wrong application of the laws of analogy. Analogy, perfectly justified, leads the boy to say "skun" for skinned, "snuk" for sneaked, "deers" for dear, "flang" for flung, or to use

such sentences as the following: "When you blow on a candle you outen the flame." "Pressure highers the boiling point of water." Some of our pupils use the words "smoothen" and "thinnen" for to make smooth and to make thin. They also re-duplicate the past tenses, as "attackted," "drownded." The fact is that our standard literary idiom is illogical and irregular, and the community mind is simply endeavoring to be logical and to follow the laws of language when it commits these solecisms.

But most troublesome of all the errors of popular grammar are, "between you and I", "with you and I". The vowel or pronoun "I" appears to have a phonic lure which the popular ear cannot resist in innumerable cases. Both teachers and parents labor for years without attaining any results in eradicating this error. This was brought home to me forcibly last year by two striking examples. A college graduate of unusual attainments in heated discussions with her exceptionally cultured father invariably uses the expression, "between you and I, father," much to his visible pain. A more pardonable case is that of a woman of inferior mind who seeks through clubs, Chautauqua literature and social prominence to appear educated. At a recent social meeting of the Mothers' Club she remarked, "I am having a dreadful time to make my children say 'between you and I,' for they persist in saying 'me.'"

If such errors are hard to eradicate, how much more baffling is the problem of slang! Here the reaction of Community English upon the High School is perhaps the most marked. It is especially unfortunate when the slang is nothing more or less than a solecism as in the case of "some" and "sure". The expressions "want on", "want in" and "want off" are used constantly by a local Ph. D. who evidently caught the germ in a godly town in Ohio. Having come from the so-called home of pure English, Boston, I was at first startled by such expressions as "bunch" and "kid", but now those expressions and many others cause no unpleasant vibration of the ear drum. Thus slang infiltrates our speech until all fineness of diction is lost.

But why should we expect the town people and town children to improve while teachers themselves offend almost equally? A few years ago a Freshman English teacher of our school, a graduate of the University of Chicago, was called to task by the principal for her excessive use of slang. When she was brought to tears by his criticism, she put her head in her hands and said, "I have tried and tried but I simply can't cut out the dope". This invective against slang should not, however, be too severe. There is no objection to slang if it conveys an image and does not displace some really beautiful expression. The expression "to fall for" is vivid in its suggestiveness and there are many others too good to renounce.

If we English teachers are going to meet the needs of our community, we must do it by giving a more practical training in the first two years at least of High School, for many of the worst offenders against speech drop out after the second year. Let us give up also a few of our most cherished classics, even in the last two years. If we become as fond of "Wooley's Handbook" as of "Paradise Lost", we shall do our own regaining of Paradise instead of letting Milton do it for us. Let us devise methods of popularizing word study especially, as for instance by the definition match similar to the spelling match of former generations. And in word study, the Latin department can be of great service to the English teacher. Let us keep the interest of our graduates by showing them we are willing to help them revive their rhetoric for Civil Service or Teachers' examinations, or by calling from them contributions for our school paper or magazine when they are beginning to lose touch with the High School. Let us teach our girls that street slang from their lips mars their beauty as much as rouge.

"The standard forms of language are feeble compared with the brilliant sensual suggestiveness of the language of the street, the railway train, and the hotel corridor. The forcible language of the successful merchant, politician, or man about town sinks more deeply into the linguistic consciousness of the young

man than the timorous euphemisms of the English teacher. So, too, the words and the phrases learned on the playground in the heat of physical struggle or of emotional combat sink more deeply into the linguistic tissue of the boy or girl than the phrases learned from the reading of literature. We are concerned here rather with a physiological than a linguistic fact. Language is social in its origin. The word that springs simultaneously from the throats of many people engaged in the same vigorous physical action has a weight which no phrase learned from formal instruction can hope to equal. The errors learned in the glorious hours of heated activity acquire a physiological foundation which may last a lifetime. It is only later in life, when the linguistic pride and self-consciousness of a student are aroused and the social salvation or success of the individual is involved that these errors can be counteracted by reflective methods." Thus our teaching must be supplemented by town propaganda. We can do much if only we make the proper approach.

Let us try discreetly and tactfully to improve the English of the daily papers, of the church calendars, of the advertising and of the social notes or notices. Let us try to get the business firms to demand an absence of cheap slang just as they would forbid cigarette smoking or gum chewing. Let us be willing to answer agreeably telephone calls asking about the pronunciation of a new word or about a grammatical nicety.

We who have studied foreign languages can assist in the proper pronunciation of French words that are now inundating our speech from the war or that have come in for advertising purposes. One of our ice cream parlors was forced to give up "orange soufflé" because customers called it something that sounded like "snuffle". And one of our high city officials in giving a banquet to a foreign guest last year asked him to have *fill-et mig-non* and horse d'ivers. The same official is not much better in English, for in giving a speech before an audience of twelve hundred people he said: "He *loosed* a leg at Chateau-Thierry."

However, in all our "Better Speech campaigning" let us not be pedantic in our attitude. If we baldly assert that "It is me" borders upon criminality, we are forgetting not only good manners, but also the looseness of the very foundation of English grammar. The French make that very error correct by saying "C'est moi" and we may be forced to do likewise at some future day. We should interest, not irritate. That there is some gleam of hope may be evidenced when the daughter of a saloon-keeper of the olden days takes a year's treatment for better speech at the rate of one impact a week. Why not make English teaching as stylish for private lessons as singing or French? I have myself earned \$50 to \$100 extra a year from those who have sincerely wished to learn how to speak and to write. Many town people also may be reached through club work, by lectures or by advice about the writing of papers. The trouble with the women of an average community is not in their attitude, for, since the war there has been an extension of civic and educational work; but the difficulty lies in the fact that many of the leaders of the various movements lack the education and the background to carry on the work consistently and successfully. We can give advice and guidance if we do not become offensive agitators.

In consideration of the last question as to the importance of standardizing Community English, I quote Mr. McCormack:

"But what of the linguistic night! The real reasons for demanding standardized and uniform speech are not the reasons ordinarily given; namely, the requirements of polite intercourse and the making of a good appearance in the *salons* of the privileged classes. The real reasons are of a higher order and are concerned with the more essential interests of the nation and of humanity. We must speak and write a common language in order that our nationality may not perish, in order that civilization may not perish. The peoples who do not understand one another are the backward peoples of civilization. Uniform spelling, uniform pronunciation, uniform meanings of words are imperatively nec-

essary in order that all the men of the nation may understand the others of that nation, immediately and without error, and in order that through understanding free government and democracy may prevail. The uniform spelling of the Greek language, extending over some two thousand years, kept within a single vessel the treasures of civilization and preserved these treasures from extinction. Then uniformity of the Latin language did the same. We must keep a standard speech, a standard pronunciation, a standard spelling, a standard sentence structure, not because such things are required by elegant society, but because such requirements are the conditions of conserving all that is worth while in human endeavor. We must seek to make the English language in its modern form first the language of all the people of the nation, and then to keep it as nearly possible the same throughout all the English speaking parts of the world. A universal language of some kind is necessary for the conservation and intensification of civilization. We have the beginnings of such a language in the symbols of music, chemistry and mathematics. We must conserve these elements and we must especially conserve and increase the Latin elements. The Latin elements are the international elements, the historical elements, the conservators of the philosophy, the religion, the ethics, the science, and the art of the past. We must oppose the insidious propaganda that has been going on for a century that there is virtue only in words of Teutonic origin. Latinization means internationalization, and the chances of English becoming a universal language will be increased just in proportion as it recognizes this fact. The German language was doomed from the moment it set its face against this truth. Uniformity and universality are the criteria that we must emphasize both for the purposes of Americanization and of internationalization. The Chinese language possesses a script which every Chinaman can read and understand, but the spoken Chinese language is composed of dialects and is understood only by the people of the province in which the dialect is spoken. The goal of the new language will be to recognize this ideal on both its sides. It must be such both in form and sound that even those who run may read and that even those who but faintly hear may understand.

Thus, uniformity will mean increased life and breadth of life, not death; and standardization and conformity to pattern, instead of meaning stagnation, will mean freedom for everyone to roam at will and without cost among the world's spiritual treasures."

Miss Winifred Bannon of Joliet also presented a paper on this topic which is here reproduced.

Americanization Through the High School English Course

One of the crying needs of our day is the Americanization of our so-called foreign population. An alarmingly large percentage of our people of foreign birth or foreign extraction have no knowledge of our language, and very little, if any knowledge of our history, our traditions, or national ideals.

To teach them to read and to write our language, to understand our government, to respect our institutions, and to share our ideals is a work that our thinking men and women recognize is of vital necessity. The one greatest agency through which Americanization can be accomplished is, of course, the grade schools, greatest because it reaches the largest number of those who need to be Americanized, and because it reaches them in their formative years.

How great, however, is our opportunity in the High School! True we do not reach so many because, alas, too few of our foreign speaking boys and girls are permitted by circumstances to attend High School. Those whom we do reach, however, we reach when they are more mature and have the ability of absorbing Americanism to a much greater degree of perfection. We turn them

out capable of exerting a great Americanizing influence among their own people. The association of these embryo Americans in school with the sons and daughters of our most cultured families,—working with them side by side, subject to the same rules, and enjoying the same privileges,—is in itself a powerful influence. All their work in High School contributes, of course, to the sum total of their conversion, but in our department of English it seems to me we have the opportunity or rather the duty of making the greatest contribution of all because every pupil must take our course and because there is so much that our course can give him. It teaches the language of the adopted land. That is no easy task, as all English teachers well know. The child of the immigrant comes to us with a most distorted conception of our language. It is well nigh impossible for us to send him out of school at the end of four short years with the habit of correct English, but we can help him a very great deal. Usually he has difficulty with enunciation; his ignorance of the idiom is very apparent; his vocabulary is limited, and his delivery, because of self-consciousness, is bad. For all four of these faults I should prescribe in very frequent doses the remedy of oral composition. Let us make these pupils talk, and then talk some more, and in the breathing spell let them listen to their more gifted classmates talk. They will learn much from imitation. Written composition is necessary too, of course, for the teaching of spelling, for pronunciation, and for practice in carefully planned formal expression of thought.

Literature offers a wonderful opportunity in this work of Americanization, for literature reveals the life and ideals of a people. Let us seek out what will attract the child so that he will like to read. There are some excellent collections of American short stories, of attractive essays by our American authors that are simple, well written and very appealing. In our school we are using some of them. In one of these collections that a class of mine has read this semester there is an excellent story "The Citizen," a wonderfully gripping story for any new American, a story whose theme is the boon of American democracy to the immigrant.

We should not underestimate the importance of dramatics. To take part in a well-chosen American play means much to one of these new comers. Being a participant in a scene in an American home means infinitely more to him than being a spectator. For the time he is a genuine American; he won't soon forget his imitation. He gains the self-confidence and poise that such a child usually lacks. Dramatics also reaches into the home. Parents will come to the High School to see their children perform when nothing else could induce them to enter the building or to mingle with an American audience. Not only the parents come but the friends come too and thus is our sphere of influence greatly enlarged. An interesting case comes to my mind. Last year a group of young people in our school gave the play *Green Stockings* before a public audience. A girl of Polish extraction from an exclusively foreign section of the city took the part of Aunt Ida, a society woman in charge of her marriageable nieces, a thoroughly American woman in a comfortable American home. On the night of the performance no one could have guessed the girl's parentage. Her elegance and poise would have graced any drawing room. She had caught the spirit of the role wonderfully. In the audience there beamed upon her with fondest admiration, her father who spoke scarcely any English and her foreign rawboned mother.

Another important thing that we English teachers do is to induce the boy and girl of foreign parentage to use the library. In the first place we should teach them how to use it,—where to find the information they want, how to use dictionaries, encyclopædias, gazetteers, atlases, Reader's Guide, etc. A knowledge of how to use the library is the only thing that will give them that at home feeling while within its four walls. This is obviously an essential feeling to awaken. These boys and girls should have a real civic pride in the library. It is their own and they ought to appreciate it by using it. Lists of really attractive reading should be furnished them because they get no suggestions or

guidance at home. Because their mothers and fathers do not read books the children do not have quite the same attitude toward reading that they would otherwise have. Books look formidable, and in many cases they really are. I sometimes try the plan—it is not my own and is not new but it seems good to me—of reading a part of an interesting book aloud to the class. I read until I get their curiosity aroused as to the outcome and then tell them to finish the book themselves. I found that some of my pupils were not going to the library. I have, therefore, brought a number of the most interesting books, not all of them story books, that I could find for freshmen in the library and have loaned them out to the boys and girls. When a pupil reads anything he likes particularly well, he may have a few minutes of the recitation period to tell his class about it. Every child in this class is now reading. These books are taken back to the library a few at a time and the pupils asked to get them there. Any scheme will do just so the boys and girls use the library.

If you will grant with me that the High School English course may be made a factor in the great Americanization movement, you will be willing to consider the question of whether or not there are in the High Schools of the state a large or small percentage of children who need an Americanizing influence, and whether there is any way of attracting into the High School more of those in the community who do need it.

In Joliet 37% of the enrollment of the High School is composed of children one or both of whose parents are foreign born. This percentage is probably somewhat larger in Joliet than in any of the other large cities of the state except Chicago, as is indicated by the figures of the U. S. census of 1910, which show a percentage of foreign born adult males in the eleven Illinois cities of 25,000 or more population ranging from 53% in Joliet to 12% in Danville. The average percent in these eleven cities is 27%. It is perhaps a fair conclusion that in the High Schools of our cities of this class at least 20% of the children are of foreign parentage.

As for attracting such children into the High School, I believe in commercial advertising of our industrial courses among our foreign population. These people are factory workers very largely and are exceedingly practical. If we can show them that we have something practical for their children they will be more anxious to send them. Let them know that we teach girls how to make their own clothes, that the boys are taught cabinet making, wood turning, pattern making, and foundry work. The teaching of mechanical drawing will appeal to them because they are acquainted with its importance in so very many kinds of skilled labor. Besides letting them know what we shall do for their children why not let them know that we really want their boys and girls? They are the timid newcomers who need to be encouraged to avail themselves of the blessings of their adopted land.

Let us bring as many of these children as possible and as many of their parents within our sphere of influence, that we may perform our full share in the beneficent work of Americanization.

The session was more largely attended than any in the previous history of the organization. The meeting suffered, however, from the fact that the program was overcrowded and that consequently there was less opportunity for free discussion. Papers carefully prepared and worthy of being read in full were of necessity cut short, and informal comment was sadly curtailed. It is hoped that those in charge of planning the programs in the future will see to it that the number of formal papers is limited. The necessity of a larger room for the meeting of the Association was apparent also if the organization is to meet henceforth in one place. It was voted at the close of the afternoon session to recommend to the executive committee that the Associa-

tion meet next year in small groups in the forenoon for round-table discussion, the results of which shall be reported to the plenary session in the afternoon.

EDWARD C. BALDWIN, *Secretary*.

9. GEOGRAPHY SECTION

The geography group assembled in Room 241, Natural History Building. Twenty-four persons attended the meeting. Dr. T. T. Quirke, of the Department of Geology, presided and made an address of welcome. Miss Alyda C. Hanson spoke on the outlook of geography. A discussion of the status of geography in the Illinois high school was taken up; the question of dividing the geography sequence in high schools, and the movement on foot in the northern sections of the state to install a year of required geography in the ninth grade and subsequently the introduction of elective geography course in the tenth and senior high school grades.

A feeling of the need of mutual cooperation and effective organization was strongly manifested. The outcome of the meeting was summed up and a resolution was proposed by Mr. Smith, principal of the Austin High School, to the effect that the Geography Section of the High School Conference of the University of Illinois division support the requirement of a year of required geography in the High Schools of Illinois. The resolution was voted on and approved by the assembly.

The meeting adjourned at 12:40.

ALYDA C. HANSON.

10. MANUAL ARTS SECTION

Morning Session

The session opened at 9 A. M. in room 402 University Hall, Professor Lake presiding.

A. R. Wilson, Champaign, was appointed Secretary in the absence of H. C. Mohler, who was elected permanent Secretary in 1917.

The following members were added by election to the Manual Arts Section Committee to serve for three years:—

Mr. Tuggle, Danville.

Mr. Stables.

Mr. Dalton, Lovington.

Miss Gifford, Charleston.

Miss Skinner, Champaign.

The Committee as now organized is:—

Mr. Erwin Touve, Marion, 1920, Chairman.

Mrs. Nellie Wall, Danville, 1921; Mr. Tuggle, Danville, 1922, Mr. Stables, 1923; Mr. Dalton, Lovington, 1924; Miss Gifford, Charleston, 1924; Miss Skinner, Champaign, 1924; H. C. Mohler, Decatur, Secretary.

The following statement was presented by S. J. Vaughn, DeKalb, chairman of a committee appointed in 1916 to revise the course of study for manual training adopted by the Manual Arts Section:—

Report of Committee on Course of Study in Manual Arts **S. J. Vaughn, DeKalb., Ill., Chairman**

Soon after the appointment of this committee, some of its members were called to positions outside of the state. One later left the profession and the remainder went into some form of war work that took them out of the public school field. It is apparent from such a statement that nothing could be accomplished by this committee in the way of preparing a course of study in the manual arts.

From one point of view, considering the turmoil and confusion of the last two years and the concentration of all energies upon the common task of winning the war, with the consequent influence on our attitudes and practices in the schools, it is probably just as well that no attempt was made to formulate a definite course of study. There seems to be a general feeling now among thoughtful persons in the manual arts work that they want to "wipe the slate clean and start again."

A committee that undertakes the task of formulating courses of study for the manual arts now must do a radically different thing from that of naming a list of articles to be made in a specified order. The world has progressed beyond that. First, the committee will meet the necessity of redefining the purposes of the manual arts and restating the principles upon which the courses must be built. The time has past when a list of projects with the required tool processes can satisfy the needs of all the different classes and conditions. The clearing up of the heretofore confused field of purpose and aim and the method of meeting them is probably the most important and certainly the first duty of the new committee. After the differentiation of work with reference to purpose, the committee must meet the pressing need for the liberalizing of the non-vocational or manual training courses.

No small group of people, however competent, can hope to prepare satisfactory courses down to definite details in the great variety of subjects included in the manual arts. Hence, it seems advisable to select a new committee whose members shall represent the State University, the state normal schools, the city schools, the township high schools, and all the other agencies directly concerned with the manual arts in the public schools. Such a committee should then be empowered to call to its aid other highly skilled teachers and artisans to furnish definite and reliable data upon which to base its study and formulate its courses.

Finally, with such a committee guided by such purposes and aided by such competent advisers, it seems not too much to indulge the hope that such clear and illuminating findings may be reported at the next meeting as will serve as a helpful guide to us all without dictating a narrow route to be literally followed.

In consideration of the disorganization of the committee of five appointed in 1916 to revise the course of study for manual training and in consideration of Mr. Vaughn's statement regarding the necessity of extended study of this subject by committee, Mr. Vaughn was elected

chairman of a committee to be appointed by him for the general review of the subject and report to the conference.

Miss Rachael Skinner, Champaign, opened discussion of the methods of instruction and content of subject courses in the Art course adopted by the Manual Arts Section of 1918 with the following address which was illustrated by the work of her classes in the Champaign High School.

Industrial Designing **Rachel Skinner, Champaign**

I have chosen to speak on Industrial Designing with special reference to the work of the boys. I have endeavored during the three years that I have been in the Champaign High School to show the boys that free-hand drawing and designing is just as much a study for them as it is for girls. I am confident that I am succeeding. Statistics may not prove all points, but two years ago there were three boys registered in my three art classes; last year there were six boys; and this year there are eighteen boys. I let the boys choose to a certain extent what line of designing they wish to carry out the first semester, limiting them to the following: poster designing, magazine cover designing, house and garden designing, city planning, and scenery designing. To be given a choice makes the average High School boy feel that drawing isn't one of the dry bones of the curriculum, and that there is much chance for individual work along lines in which he is already interested.

Each student has his own individual assignment which is more or less indeterminate. He may get as much outside material bearing on the subject as he chooses. A definite number of problems is not required, for some students may work out much more difficult and intricate problems than other students. Then, too, the speed of the students must enter in here—naturally some students are much slower than other students.

Lettering and perspective are essential to all types of art work. In order to do anything with drawing or designing, we must have a working knowledge of both. We all feel, I'm sure, that the key note to good designing or to any kind of art work is lettering. Two or more different styles of alphabets are copied to get the form and technique desired, and then severally distinctly individual types are worked up by each pupil. After the principles of lettering are mastered perspective must be studied. Definitions are all right in the teaching of perspective provided the students understand them—but as a general rule the pupils do not grasp the right meaning, and are unable to apply the definitions. Art teachers formally gave ten or twenty rules for perspective and demanded that the wording of the rules be memorized. If the pupil could glibly say the rules, he was passed irrespective of the application of the rules. A good plan I have found is to appoint a committee of three or four students in the class and ask them very confidentially how we might go about explaining perspective to the class. A fairly accurate definition of perspective is the result. Ask them where we can find out about it, and they will volunteer to look the matter up in dictionaries and art books. They are doing it themselves so there is vim in it. It is the minds of the pupils that are doing the work—not the teacher's mind that figures ways and means. Now that we have found out what perspective is, have each pupil hand in a problem in perspective on a slip of paper. In this way reviews may be handled by the pupils themselves. A member of the class may be appointed to handle these reviews, but the teacher must be able to step into control instantly in case anything goes wrong. Perspective to my mind is one of the hardest phases of art to teach successfully, but since it is absolutely necessary to any line of art work it should be made as interesting and as vital as possible.

After we have studied the fundamental principles underlying art we are able to plunge into the real work of Industrial Designing. Poster designing seems quite naturally a good starting point. We are literally confronted with posters now days in every line of work, so I feel that a great deal of time may well be spent on this work. I try to keep a great many posters on hand to show my classes the simple practical type of lettering desired now days, and the general plain character of the posters as a whole. The beginner always wants to make his posters too complicated and too ornate. He endeavors to say entirely too much, leaving nothing to the readers' imagination. Impress the students with the idea that the poster is for the purpose of selling something or for announcing some event, and (for this purpose it must be clearly seen. It must compel attention. The poster is looked at usually from a distance, and the observer is, as a rule, in motion—therefore, the message must be brief and intelligible. The principal elements of a good poster are originality, simplicity, strong contrasting colors, and simple yet forceful compositions. Posters announcing athletic events, plays, socials, and stunts given by the High School students, and posters advertising goods of local firms in town are worked out. A great deal of competition and healthy rivalry is fostered in this work. The boys begin looking through the advertising section of the magazines and papers to see how posters are laid out, and it is always surprising and gratifying to see the amount of material they voluntarily bring to class. In several instances dealers have bought the posters made by pupils. This puts life and zest into the work. It makes the problems real and vital. The boys are able to see that their work amounts to something; that drawing isn't theoretical and useless.

Magazine cover designing is popular with some members of the classes. Several of the boys have worked out three or four cover patterns for certain magazines which they expect to send into these magazines for publication. These boys are getting a taste of real commercial designing. Even if their first designs are rejected, they will have learned how to lay out the design, how to apply simple flat washes of color, and how to get these designs into the publishers' hands.

I feel that every student should have his eyes opened to local civic problems, one of the fundamental steps in training for citizenship. What kind of citizens will these boys make if we let them grow up to manhood with no regard for or interest in the scenes about them? I think that Mr. Orr of the Tribune would class a boy or man blind to the possibilities of his environment as a "non-essential citizen." The first step in civic improvement is always to beautify one's own home. Let the boy work out the plan of his own home lot indicating the space occupied by the house, garage, gardens, walks, etc. Then he may work out a plan for improving the lot with as little expense as possible. The oval and round flower beds in the middle of the lawn are done away with, and in place of the high board fence, a hedge is planted. The awkward angles around the house are concealed by shrubs and the garbage can and place to burn papers are hidden by hollyhocks or shrubs. The paths around the gardens and the lines of the shrubbery are made to curve suggesting the sense of distance and space. Then, too, straight lines the boys find out are fatiguing to the eye. Impress the student continually that "Art is a science by which the optimist picks, chooses, and groups that beauty may result."

When the students' own homes are made as attractive and as artistic as possible, the boys have the privilege of laying out what they consider an "ideal home"—a home which they would like to own. Consideration is given to the general arrangement such as the placing and facing of the house, the arrangement of the garage and smaller buildings, the placing of trees, the planning of walks, shrubbery, vegetable gardens and flower gardens. The vegetable gardens in most of the diagrams are so enticing that I'm sure even the laziest boys would find it fun to work in them. It is always surprising to see the ideas that are created in a problem of this kind. It certainly helps to bring out all of the imaginative genius a youngster possesses. Next the perspective views of the

house is worked out. This view helps materially in making these plans vital and real. The students may actually visualize the home.

A community grouping of houses is an interesting problem, and all the more so this year for both Champaign and Urbana are now able to boast of groups of houses built around courts. The court arrangement is becoming more and more popular elsewhere as well, and can best be appreciated when studied at first hand. The community center in every plan is a marvel and the court yard equally fascinating to the pupils.

Some of the boys are spending much time in designing park systems and working out designs for cities. First of course is the remaking and enlarging of their own parks and city as far as possible. They are able to see in every instance that the parks are inadequate to the growth of the city. The replanning of the city is a hard proposition for the average city, and Champaign is no exception. It was built with very little preparation for the future growth and with insufficient pleasure areas. In nearly every city there has been a general shifting of business, manufacturing, and residence districts. The free reign of private enterprise in our cities has lead to a great deal of benefit, but there is unlimited evidence that in many instances one person or a group of persons have made exorbitant profits through some big deal while in the long run many people have been obviously injured by the depreciation of property. There should be a definite business, factory, and industrial area and an exclusive residence section. If no restrictions are made, a person with business enterprise may invade a residence district and establish a store or paying business of some kind regardless of the rights of others. People ought to be able to live in the country and still be able to get into the city quickly. The great problem of transportation must be considered; street cars do not go far enough into the country and are not speedy enough to be economical. It is high time to be thinking of terminals for aeroplanes. The problem of the congestion of the streets is an important factor. For example the streets going east and west might be built above the streets going north and south. A union station for all of the railroads is of vital interest. Before many years I'm sure every city will have one central station. Plans for a central station for Chicago are now being developed, using the Illinois Central depot as the nucleus. This union station will be the biggest and finest of its kind in the world. The diagrams of several large cities may be shown developing the different plans of cities such as the gridiron plan, the stratified circular plan, and the diagonal plan. It will not take the boys long to see which plan is the most effective from every point of view. The cities may be made as intricate as the boys please for a city is built for the people who live in it and not for strangers. The same rule applies to our homes. With a few days to study plans of cities and a little time for the imagination to work, the boys will turn out fairly logical critics. Two very good cities for reference are Washington, D. C., and Paris, France. The boys may go farther with this work. They may work out plans for war camps, community recreation camps, and general reclamation work.

The planning and ultimate working out of scenery is of much interest to the boys. Last year we worked out a very elaborate outdoor scene and a Chinese scene for two of the plays given at the High School. We are taking up the scenery proposition in a little different way this year. Instead of actually constructing trees, bushes, and foliage, as we did last year, we are working out our ideas on big three paneled screens made by the Manual Training Department. These screens will be a permanent fixture for all future plays. For each play we shall paint different canvases to fit the general scheme of the play. Besides working out the screens we have a big tree to construct for the first play to be given this year. This tree is struck by lightning in the second act and divides exposing the heroine of the play. We have had many heated discussions as to how this tree might be designed. Finally after many drawings were worked out we decided that barrel hoops fastened to long boards for support were the best solution. These barrel hoops are to be cut in front and back. The back of

each hoop is to be hinged which will allow the tree to swing open. The frame work eventually will be covered with canvas and painted. The scenery proposition is a splendid problem. The boys are naturally much interested in the shows to be given and so put forth their best efforts to make them successful. The painting of the scenery appeals to their creative ability. The broad splashy effects excite and please them.

Last spring we were fortunate enough to be allowed to work out a system of walks and driveways for the back of the High School building and a drainage system for the grounds. One of the board members gave us the desired data for the problem and with the frequent aid of the engineer we carried the problem out. It was necessary to be very accurate in all details. For several days the boys went about the school yard, drawing board and tape in hand; jotting down various points to be produced on the sketch. This work was of vital interest to the students—naturally anything pertaining to their own local school would arouse a great deal of enthusiasm. We hope this next spring that we may draw up plans for enlarging the High School building. The school is growing so fast that an addition will be necessary by next year. Although these same problems will not be found in all High Schools a little ingenuity on the part of the drawing teacher will discover worth while projects of local interest. It is not necessary to have the support of the School Board, and not necessary to tell the pupils that their plans will be carried out. However, the completed plans will often lead to definite results.

My plea in closing is to plan a High School drawing course which consists of more vital concrete problems. These problems may be arranged in such an order that the boy will get training in all of the fundamental principles of art. This is a practical age. We must prove our ability to aid community and civic growth if we are to develop and expand.

The discussion was continued by H. Francis James, Illinois State Normal University, who reviewed the methods of conducting instruction in general art courses.

General Art Courses for High Schools **B. Francis James, Normal University**

It is hardly necessary to state at the outset that art courses as they are at present taught in the high schools of the country are presented in an entirely different manner and from an entirely different viewpoint to that of a dozen years ago.

Who does not recall the old adage "Art for Art's Sake"? Who does not recall the careful copying of pictures in the grades and in the high schools? Who does not recall the days when drawing or Art with a capital "A" was considered a cultural acquisition?

It is only ten years since I took charge of all the drawing in the high schools of the largest city in Alabama. Here, students would as a matter of course bring Gibson girls and Harrison Fischer heads to the classroom, and spend hours in vain attempts to make faithful copies of these athletic and soulful types! To such an extent was this done that no equipment, no regular outline or course of study was considered necessary. Thus I was face to face with the problem of how to teach drawing to over two hundred students a day with absolutely no models. Nor was there any appropriation deemed essential for this purpose. The principal of the school hearing that all Gibson heads and Harrison Fischer girls had been pigeon-holed, stayed away from the drawing room and fell back upon the watchful waiting policy.

I realized that drawing must be made practical; that drawing had to be correlated with the other subjects in the curriculum; and that a thorough drilling in the fundamentals of drawing was necessary for all.

There is one point here that I would like to make clear. We have all been told that art is for the many and not for the few, that the high school is not the place to bring out talent. This all depends upon the definition given to talent. To me, talent is not born in one; but we do inherit a great liking, a great passion for drawing. This passion keeps one working along the same lines, enables one to overcome obstacles, keeps one determined to realize high ideals, until after years of study great skill is noticeable: this skill, the result of years of hard work, we call talent. Now I claim that the high school should furnish every opportunity for some of this hard work—which will eventually develop talent. Yet it is a fact that these few hard-working art-loving students will not flourish unless the great mass of students are taught how to appreciate their efforts. Doctor James Parton Haney, the Director of Drawing in the high schools of New York, perhaps the best authority on school art in this country, has said that in order to have artists and craftsmen in our midst, we must first have an appreciative audience. And to appreciate, we must first understand. Therefore the great simple laws and principles that govern the realistic and decorative representation of the fine arts should be made clear not only to those electing art in their high school course, but should be made clear to all pupils in all high schools. And this training for appreciation should be begun in the seventh and eighth grades since so many children never reach the high school.

Then and then only will we have conditions ripe for the developing of great artists and artisans.

First create an atmosphere of intelligence regarding the fine arts in all schools, then foster and carefully nurture every sign of talent even as a florist would care for a rare plant or flower.

It may be that boys and girls who seem inherently to like to draw and to work with their hands, to create shapes and paint with colors, are supersensitive (my experience is that this is so), it may be that theirs is a nature which needs to be shielded and encouraged—be that as it may—the fact remains that they need appreciation. Given this, they will create works of art.

To revert to the conditions with which I was confronted in the high school down south, I realized that I had to begin with the A B C's of art; art spelled with a small letter.

I consulted with the teachers of literature, history, botany, zoology and of manual training. I discovered that drawing was needed in all of these courses. Students in the literature classes were not able to visualize the descriptive scenery as told so wonderfully by our great poets and authors; students studying history thought of the development of nations in terms of the reigns of kings and queens, battles and revolutions, never in terms of the remarkable evolutions of the periods of architecture and art, which evolution doubtlessly played its important part in the conduct and thought of succeeding generations. I found out that those students taking botany and nature study who kept notebooks, rarely dared to make sketches of the wonders of nature; when they did, they copied these from illustrations.

So I decided to correlate drawing with all other subjects in the curriculum; or in the words of a student who was asked the value of drawing, "Drawing," she said, was "the jelly which made the other subjects slip down more easily."

So I decided to give some jelly to all, to raise aesthetic standards, and to develop keen appreciation in all of the beauties of nature as interpreted by those who feel called upon to do so. For being sure of this appreciation, there will always be found the few who will lighten the hearts of the many. The impulse of art is as old as mankind. As Mr. Garrett P. Serviss says in one of his articles: "How far back must we go to find the real origin of this art instinct, whose sole use is to make us forget that we are shackled by irresistible forces, castaways on this spherical projectile? We must go back into pre-history, to the days of the cave men, to the abandoned homes of the wonderful Magdalenian and Azilian peoples, where we find in the remote and night-haunted corridors and recesses of deep mountain caverns, figures of men and beasts, and

strokes of ornamentation which not merely prove that in that far off age man was already appealing for spiritual comfort to the art instinct, but also shows that the ideas, motifs and forms in which that instinct then expressed itself have remained fundamentally unchanged to the present day. Men cannot live by bread alone. The mind cannot develop on an exclusively scientific diet. The lines of beauty in the form and decoration of a vase, and the studied harmony of tones and colors that stir the soul as though they were musical sounds, are like to the inscriptions made on his dungeon walls by a life prisoner, who, with their aid, drives away madness and keeps his mind sweet."

Now how to develop this fundamental instinct? Is it really possible that drawing teachers once thought that since some students liked to draw, it was of no importance what they should be asked to draw? Is it possible that it was considered vital to use wooden blocks in order to bring out the spark of genius, to inspire students to high ideals? It seems but yesterday that we were urged to make careful outline and shaded drawings of cones, cubes and pyramids! We are now unanimously agreed that their only recommendation lay in the fact that they were indestructible, and it is not to be wondered at that the poor victims looked wooden.

But we have turned to more inspiring models, we have thought out courses which have an appeal to young minds, and in the outline suggested in the report on the revision of art courses for high schools, submitted by Miss Nellie Wall of Danville, Miss Maude Smith, of Bloomington, and Professor Walter Sargent, of the University of Chicago, in this report we will find that inspiration. For this revision, in my estimation, is a clear, logical and simple one which admits of but little discussion. I shall merely attempt to graphically illustrate a few of its many good points.

Before turning to the teaching profession about fifteen years ago, I pursued art studies both here and abroad, with the idea of becoming a portrait painter or an illustrator, so that I believe that I well understand the mind and attitude of young high school artists, and the kind of environment which should surround them; to say nothing of the knowledge which the mass of students should have in stock so that the work of these future artisans should bear fruit.

Therefore I have taken the second type of art course which is classed as general art course. This outlines the work for two years only as the report indicates. The chief reason being that under present conditions a student electing art for four years is likely to take part of the work in industrial art or a historical survey of art. I have but one suggestion as to its tabulated order, namely, that the principles of design should come after the principles of pictorial representation. I shall make this point clear later on in this paper.

Let us first consider: *The Principles of Pictorial Representation.*

Under this heading, it is suggested to make a close correlation with history, geography, botany, zoology, and nature study. That is to say, that whenever in any one of these subjects, some matter is being taken up for discussion, the teacher should think of the manner in which some of the points might be illustrated, and request the drawing teacher to attempt to have the class visualize and graphically illustrate these points. Then these attempts should be rendered in both a realistic and a decorative manner. The merit of this work should be placed not so much upon its correct rendering, nor upon the way in which the subject is interpreted, as upon the skill shown regarding space division, or composition. For this phase of art depends less upon ability to visualize or depict or handle a certain medium, as upon the result of hard thinking.

For instance, when the study of mountainous countries is taken up, outline sketches of mountains, hills and valleys might be undertaken. These should be made within definite rectangular frames, so that composition could be studied to the best advantage. Such principles as having a variety of shapes, no two sides of the picture divided into equal spaces, no geometric shapes (which are monotonous), no lines terminating in a corner of the frame, all these should be discussed with an idea of being able to apply these principles to all examples of

pictorial art, whether in school books or magazines. Next, this same sketch should be worked out in a decorative manner emphasizing the fact that whereas in the realistic study, the center of interest was brought out and varied tones were used, in the decorative treatment, the interest was scattered, and the tones were flat and showed less contrast.

These exercises should be worked out in different mediums, and after a series of color harmony lessons have been given, should be worked out in color. For color is to the eye what music is to the ear—we all revel in color—we must have color—but there are laws governing color harmony just as surely as there are laws governing sound harmony. I have prepared a series of color charts for publication, to be used in high schools, and will be glad to have anyone look them over.

After pictorial representation, we have the principles of design. I have placed this branch of art following the pictorial phase, because I feel sure that one should first make many sketches of natural objects before attempting to create shapes which suggest but do not picture them. In other words, I believe in beginning with the concrete rather than the abstract, and if we are to keep from copying, we must first make careful studies of flowers, plants and animals. Then it is time to drill upon the fundamental principles of design, and change these plants, flowers and animals into interesting motifs.

This phase of art brings about a close correlation with botany, zoology and nature study. For instance, in an outline sketch of a spray we first study composition; then using this as a model, we change it into a design, and consider dominant and subordinate shapes, variety of spaces, unity, rhythm, balance and connection. As is suggested in the course, historic styles in lettering should be studied in connection with design; then this knowledge be applied to posters, book covers and special problems which will demonstrate the practicability of this character of work.

I consider simple pictorial composition one of the most vital of the branches of high school art, for its study will make more for the appreciative audience than any other. It will also develop the talent of the few, those few who will later become painters, illustrators, sculptors and architects. By this phase of drawing, students can be taught to illustrate themes, which will make their sketches a genuine piece of study. Suppose the class is studying "The Vision of Sir Launfal" and the class is asked to illustrate those lines which say "And what is so rare as a day in June." First write out a list of the things which if introduced into the picture will contribute most towards illustrating the subject. Arrange these in order of importance, then experiment with a few of these shapes thinking of arrangement and composition. Many small sketches should be made, and data collected from nature and from photographs and pictures will help in drawing the things to be included in the illustration. Careful study should be made of good illustrations in the medium selected, so as to see how others have worked out similar problems. Finally the student is ready to start.

In conclusion, I would say that if students are trained along these lines, they will gain an appreciation of the manner in which pictures develop and grow only as the culmination of a long series of sketches, observations and experiments; they will learn to be observing, appreciative and enthusiastic as to beauty in composition, whether in realistic or decorative art, to recognize harmony of color wherever found; and will maintain as Professor Sargent expresses it, "the sensitive attitude of learners."

Afternoon Session

The session opened at 2 P. M. in room 314 University Hall, Professor Lake presiding.

A Progress Report on Curriculum Reconstruction was presented by Albert F. Siepert, Chairman of Manual Arts Committee on Curriculum Reconstruction.

Progress Report **Albert F. Siepert, Peoria**

The Manual Arts Committee on Curriculum Reconstruction has had a rather unsettled and troubled existence. Called into being during the period of our actual participation in the Great War, the committee has found it difficult to get organized and to do its work. So many had left teaching for military and naval service and others have gone into new positions in other states, that the personnel has been a shifting one. At present the committee consists of the chairman, and Mr. Todd of Ottawa, Ill., with Mr. Bauersfeld of Chicago having agreed to act in an advisory capacity. These statements are made to call attention to the fact that we need about three more members to do the work ahead of us, and to request that suggestions be made as to names of persons who will serve on the committee. Reconstructing a curriculum means a task beyond the time or ability of any one or two individuals, but the opportunity of raising the level of our work and its consequent recognition by the University, is dependent upon meeting the problem and finding a solution.

It is quite possible that the order of this program should have been reversed. Had Professor Griffith been assigned to give us his paper first we would have a statement of at least one of the first essentials of the task. We need to redefine our aims in terms of the needs of our day, and of the future as well. As you probably know the Conference of 1910 considered the general high school curriculum. The Manual Arts section considered detailed plans for courses in freehand drawing and in manual training. These outlines were printed in 1910 conference report, and so far as the manual arts are concerned, have practically furnished the basis for work offered for entrance credit at the University.

A year ago a general committee on curriculum reconstruction was appointed consisting of various persons each of whom was to be in charge of a committee representing a particular line. This person, together with others in the same field, is to present a new program for that portion of the curriculum with which the committee is especially concerned.

The first step, therefore, is the selection of the committee, and this, the chairman hopes, may be an accomplished fact in the near future. In order to present to this group the matter in somewhat greater detail, I should like to refer to the 1910 report. At that time a statement was made concerning the amount of credit for entrance allowed by various universities, Illinois at that time allowed 2 units, Wisconsin from 1 to 4, with several others allowing but 1 unit or less. For one of the two units allowed at Illinois, it was suggested that a selection be made from one or more of the following groups provided 180 hours is offered from each group.

1. Machine Drawing, 180 or 360 hours.
2. Wood Turning and Patternmaking, including principles of molding, 180 hours.
3. Wood Turning and Furniture and Cabinet Making, 180 or 360 hours.
4. Forging, 180 hours.
5. Machine Shop, 180 or 360 hours.

The work outlined is typical of the educational practice of that time. It consists of the stock lines of hand and machine work such as was formerly the accepted routine in manual training courses. The various subjects are all elementary in character and so are each the beginnings of what may be termed vocations or trades. In view of the suggestions that any combination may be

selected a student may reduce his acquaintance with a group to a brief 180 periods of 40 minutes. Obviously too short a time to derive whatever good there may be inherent in any form of manual arts. Again, these groups are more or less isolated, one might conceivably spend his entire time in shop work without having the related drawing. There is, then, a need for reorganization from the larger standpoint of securing a unity or sequence from one stage of learning to another. There seems to be some advantage in concentrating in such manner as may aid in securing at least some more advanced work in one field than to spend one's entire time in the elementary stages of several fields. Lest I be criticized for an apparent over emphasis upon a more narrow field, I wish to say that tool technique, motor learning, habits of skill, are more likely to be over emphasized—in the time spent upon them for the value received—in the older method. Skill of hand is highly desirable and very necessary as an aid to later mastery of problems that may arise. Without such mastery, the student is not free to plan, or invent, or solve problems. One does not expect the child to solve problems in percentage until he has acquired among other things some degree of facility in multiplication, division, etc. Why expect beautiful well-built furniture before one can saw or plane with a like facility?

A second need for reorganization grows out of a very common method of approach to the project in each group. Almost without exception each student makes exactly the same drawings and project as his neighbor, or he does the same work in so far as the principles involved are concerned. The point at issue is that the student works as an individual. He is taught by a method such as was practiced by the old artisans and craftsmen. The spirit of modern industry with its emphasis upon the interdependence of one workman upon another is entirely absent. With the finest possible opportunity offered in any field for an application of principles which each student must grasp as he enters industrial or commercial life, the teacher of manual arts is blissfully ignorant of anything that breaks up his routine. It may be easier to keep track of a school shop and to score records of students when all are doing practically the same thing, each making the whole project for himself—but it is of much more vital importance today to have pupils see how *quantity* production of articles lowers costs, raises excellence, and gives a wider knowledge and greater appreciation of the modern industry than is possible otherwise. Grouping of old and new lines into new combinations which have some common center of interest seems a worth while field of endeavor. Instead of the unrelated courses, we reasonably expect greater results by so arranging a sequence of work that each phase strengthens and improves the rest. As an illustration of this I should like to quote from the recommendations of a committee called by the Commissioner of Education during the period of the war, to consider the help the high school might render in the emergency. This committee indicated at least three lines of work as worth while for young men approaching military age. These were

Group A Study of machines, especially the gas engine.

Metalworking.

Mechanical and machine drawing.

Group B Study of building construction especially use of steel square in framing.

Shopwork in carpentry.

Mechanical and architectural drawing.

Group C Principles of electricity.

Practical work in electric wiring.

Mechanical and architectural drawing.

The purpose of Group A is to analyze machines and to find out how and why they work with a view of discovering the common elements of all machines. Since a large part of the work of repairmen consists in finding the trouble and replacing worn or broken parts, this general knowledge of the principles of machine construction and operation is regarded as fundamental.

The purpose of Group B was to qualify for general carpentry work, while Group C was intended to lead toward practical work in house wiring. The suggested time allowed for each group was 10 hours weekly, and should continue three years in order to develop the required resourcefulness and skill.

The above recommendations were intended to meet an emergency situation, however they also furnish valuable suggestions for meeting peace conditions. We are constantly finding a demand for new material and new lines of work without adequate means of taking care of them. If metal working courses might proceed thru a series of carefully arranged stages one could begin with hand tool operations and end with the application of both hand and machine work as applied to various modern industries such as automobile repair for example.

Another of the questions before the committee is such consideration as the reorganization of our schools merits. Since 1910 the Junior High School and Senior High School movement has made rapid strides, while the Township High Schools have also greatly increased in number. It is reasonable to expect a wide variety of work in the Junior High School if manual arts is to serve as a "vocation finding" basis, but the Senior High School, with which the University will deal more directly with reference to entrance credits, should not be a continuation of the same sort of thing. Here one may look for a more intensive application to a series of closely related courses such as were suggested by the Bureau of Education conference report mentioned above. In this event we would only do what Dean Goss mentioned at the time of the 1910 conference—namely, that the time may come when the Engineering College, for example, will push on in the larger fields of shop management, costs, etc., leaving the study of tools, materials and machines to the high school. In the event that this suggestion is not feasible, it may be possible to do with manual arts just what is done in college classes in other subjects where well prepared students enter advanced classes while others register for more elementary work.

Finally, in our reorganization, provision should be made for such content and method as will without question merit credit. This involves among other things a recognition of the place of technique and skill as a fundamental for progress in the course. Second, a wider knowledge and a growing appreciation of modern industrial practice in so far as manual arts courses can contribute these elements. Third, emphasis upon such problems as call for real thinking, and which may serve to increase resourcefulness and inventiveness.

With respect to the development of skill it need only be said that our problem is to so arrange our drill or practice that we get better results than at present in less time thru more effective arrangement of our method of procedure. The knowledge and appreciation of modern industrial practice can come only when we add to the present practice of having the pupil go thru the entire problem as an individual without special reference to anyone else, a second stage of having the entire class organize to produce by piece work articles in quantity. The development of resourcefulness represents a still higher stage. The student must be confronted with many varieties of problems the solution of which can be found in part in his previous experience, and so presented that he is obliged to weigh values and form judgments of his own. This may mean home projects, repair work or new construction. The character possibly being of less importance than the end to be attained and the method to be followed. Each of these lines should be strongly reinforced by related readings and by such visits and trips as may be possible.

Summarizing, the committee desires to propose the following items for the consideration of those present at this time.

- (1) Securing increased recognition for manual arts as entrance credit to equal that given at several other universities. Possibly a sliding scale should be suggested depending upon the University course the high school students expect to take.

(2) Setting up more definite end points to be attained in successive years of shop work so that educational sequence shall exist in place of the present plan of presenting beginnings of vocations one year after another.

(3) Grouping of old and new subjects in new combinations to increase both the interest and effectiveness of the manual arts as a whole.

(4) Arrange beginning of courses upon a basis that will insure the most thoro individual instruction possible; give some conception and appreciation of modern industrial processes thru community effort and quantity production; and furnish some experience in problems that call for resourcefulness and originality in their solution.

(5) Emphasize the place and importance of a study of related fields thru class discussion, reference readings and such visitations as may be possible.

With a consideration of these and related topics the committee expects to be occupied for the coming year. If we have your help and suggestions it is hoped to present a complete report for the consideration of the 1920 Conference which will meet with your approval and that of the University because the plan is the result of successful experiment and educationally worth while.

The High School Manual Training Teacher and His Job

James McKinney, University of Illinois

Perhaps one of the main reasons for much of the unrest that now exists in the industrial world can be attributed to the fact that modern industry has reduced such a large portion of our daily work to the level of mere chores. Whenever we reduce work to a level whereby a man can go through his daily stint without much thinking, we immediately are laying the foundation for unrest and dissatisfaction. We are apt to forget the fact that a human being is a thinking animal. It is just as natural for a man to think as it is for a man to breathe, and so when we reduce the thinking on the job to zero it simply gives this worker an opportunity to think and brood over many real and imaginary personal relations problems. A man can only do good work when he has convinced himself that his work is worth while and there is some satisfaction in doing it. The satisfaction is sometimes measured in terms of what other people think about him and his job, and sometimes in terms of his own standards of success. Every man does have some kind of a standard. Sometimes it is a certain wage earning capacity which is sufficient to meet the bare economic needs of his family; sometimes it is the wage question again in terms of a fuller and larger life for himself and his household; sometimes it is the realization of rendering a social service. Whatever motives may actuate a man in his work, the work itself, at least, must bring some satisfaction or else the man is in a state of mental anarchy. This in a rough way is perhaps something of the philosophy of a job.

Perhaps, there are some good school people who do not like this term of a "job" applied to the teaching profession. Perhaps, there are some who feel that it may lower the ideals of the shop teacher when we talk of his work in terms of a job; however, I feel that there is less danger of the manual teacher being misunderstood in the industrial world if he can, for the moment, lay down his cap and gown and think of himself as a worker in our great democracy. Furthermore, there are so many situations similar in the modern school world to that of modern industry that I make no hesitation in using this term of a job as applied to a shop teacher's calling.

The situation in the school world is perhaps not so different after all. Just now the air is filled with the challenge of democracy. The war and its problems have opened our eyes to what we lack as a democracy, and people are asking in no uncertain terms as to what our schools are doing in training for real citizenship. Not that there is any lack of vision of the function of the school in the high places of education, in fact, our leaders in the educational field were

never more clear about the function and purpose of education. Never in the history of education have we had a clearer conception of the school's real function in a democracy. Never have we had a group of educators who are so willing and ready to serve in the interests of democracy; never have we had a group of pedagogs who are so willing to mix with the common throng of industry in the effort to develop a finer and better people. However, as we gradually go down from the leaders in education to those who are trying to carry out the message the vision somehow becomes less clear. It is not suggested here that the teachers are lacking in vision, but rather that the actual difficulties of putting our theories into practice are almost insurmountable. It is easy for us to talk of the socially efficient citizen as the aim of education, but it becomes an entirely different matter when we try to think of this in terms of school subjects to be taught. The difficulties of putting our theories into practice have been immense. In some cases there has been a lack of vision on the part of the supervisor of our manual training—and where there is no vision—we cannot expect efficient or even mediocre results. In other cases, the vision may have been clear to the leader but one cannot expect much vision, or for that matter just good ordinary hard work, from a group of teachers who are being paid from \$1200 to \$1500 a year for their services.

The one thing that is disturbing our work in manual training in the high school is the fact that a number of our teachers are in the position of the worker in industry and are getting very little real satisfaction in their work. They are like our doughboy who objected to marking time as he could not see why he should expend so much energy without getting anywhere. Our teachers are working hard. They succeed in keeping a group of boys busy for 100 minutes in a week, but there seems to be no definite result that they can point to as the culmination of all their efforts.

As one comes in contact with the rank and file of the manual training teachers in the high schools we find this sort of an attitude; when one asks how things are going, the usual answer is, Pretty fair—considering the circumstances. The circumstances are the things which are, after all, responsible for this blurring of the vision of the job. There is the great barrier of the organization problem as circumstances have forced it upon us. There is the problem of the small school which cannot afford the usual group of special teachers and must therefore look around for some "Jack-of-all" pedagogical trades, and so the manual training teacher usually has some other tasks, such as being the football coach, the science teacher, or the mathematics teacher added on to the work in which he is specialist, and often in these cases the manual training work is secondary to the other interests. There is also nothing unusual in the present day situation of adequate equipment for only two-thirds of the pupils attending the school. Then there is also the discouraging fact of the size of the class; in many cases the teacher is given thirty to thirty-five adolescent boys to take care of, and any one who knows anything about teaching shop work knows that this situation is impossible, if we think in terms of education and not merely keeping boys busy and out of mischief.

Then there are the problems connected with the supervisor or leader who is more concerned about his personal success than the success of his teachers and students. Large numbers of monstrosities have been forced on the heads of manual training teachers simply because a supervisor has been too eager for personal fame. Those of us who know the inside story of the marvelous things that have been done by boys in manual training shops know that at least fifty per cent of the work was done by the teacher's own hands.

There are also the demands of charity organizations, the board of education, the festival departments, the dramatic clubs, the city school exhibits, etc. These things are all fine in themselves and it is natural that demands for things to be made should come to the shop teacher because he is the man in charge of the school shops—and what are school shops for anyway? No one will question the value of a group of boys making boxes for the Board of Education or mak-

ing stage property for a play, but there is some question of allowing this work to be done when the educational and social values are all stripped from it, and all that is left, is the dry husk of a task to be done. We have seen many school shops doing this kind of work and the atmosphere was exactly like that of a sweat shop where neither the teacher nor the students were getting the least bit of joy out of the task.

It surely behooves manual training supervisors to have the courage to question some things which are being done in the name of education in our school shops, if they are to have a group of satisfied and loyal shop teachers. The shop teachers do not object to having their boys making things that are real and seem to correlate with the other activities of the school, but they do object to these things being thrown at them without question of their pedagogical value, without considering whether the boys are able for the work, without considering whether it is possible to make the things with equipment that the teacher has on hand. For a teacher to take on a task of making fifty tables for the Board of Education and not have the adequate woodworking machinery for doing the task is simply opening his shop doors to the troubles of discontent and lack of interest. We know of no surer way for a teacher to estrange himself with his class than have the problem of four hundred mortise and tenon joints to make by a hand process.

Again, it would seem that little thought had been given to the equipment of some of our high school shops, at least, little thought from the pedagogical standpoint, as any one who knew anything about teaching conditions would never have permitted the situation of crowding one hundred boys into one room and ask the teachers to carry on their work to the accompaniment of buzz saws, planers and jointers.

Along with the rest of the high school subjects manual training needs to apply the acid test to its work. Both supervisors and teachers need to let go from the job of making desks, taborets, chairs, tables, etc., and sit down and ask some rather searching questions about their work. We need to be continually asking ourselves, what are this boy's *needs*; in terms of doing his school work successfully; in terms of taking some share in the work of the home; in terms of interests in the industrial world outside of the school; in terms of what his vocation in life is going to be. This is something more than merely making things or teaching tool tricks; it will mean a larger job for the manual training teacher. It will mean a choice of problems based on the knowledge and insight they will give in terms of the socially efficient citizen. It will mean being a guide and counsellor in the realm of books in so far as they pertain to his shop interests, and this is a field which we have left almost entirely out of our work. It will mean a closer study of the industrial interests of the community for the purpose of taking his boys to see how the industrial world does things. It will mean a closer study of the types of constructive work that the boy does at home unaided. In every respect, it will mean getting a closer touch with the real boy. In this conception the manual training teacher becomes the representative of industry within the school border.

Here is surely a real task for any man. It has all the elements of the real job which makes for joy in work. The teacher will have some satisfaction in seeing some results of his work. He will have the satisfaction of seeing a boy grow and broaden in his interests, develop a love for rendering a service and gaining in knowledge regarding his choice of a vocation. The more we get our work crowded with work which has met these educational tests the less danger is there for simply doing things with the purpose of keeping boys busy doing a job to keep "in right" with the "Boss." We are aware, however, that even such a program as this will not answer many of the organization problems that the teacher and supervisor have to face in regards to equipment, size of classes, etc. What we would like to see in the matter is a much closer co-operation between the teachers and the supervisors in meeting these problems. The teacher is more likely to be satisfied if he has faced the organization diffi-

culties and had some responsibility in solving them. In the new measures of value which are being continually applied to what we call high school education, more and more is the situation becoming favorable for the manual training teacher doing a real piece of work; more and more are educators beginning to test school subjects by their social values, and no other teacher in the high school has a more fertile field of content for an actual contribution to the development of citizenship. Let us hope that the high school manual training teachers are awake to the opportunity that lies within their shop doors, because we are convinced that through these shop windows many of our students will get their glimpse into the world of realities and the part they are to play in it.

Redefining Manual and Industrial Arts in Terms of Recent Educational Developments

(Synopsis of an address by Ira S. Griffith, Professor of Industrial Education, University of Illinois.)

1. HIGH SCHOOL CURRICULA OVERCROWDED

1. The curricula of the high school are overcrowded and the teaching methods of many of the subjects are obsolete.

- (1) Newer subjects all demand more time and attention.
- (2) Older subjects are reluctant to release any of the time allotted to them in earlier days when objectives of the high school were differently conceived and when time was more abundant.

2. OBJECTIVES FOR HIGH SCHOOL CURRICULA NEED REDEFINING

2. Both subject matter and method of high school curricula need redefining in terms of objectives recently conceived.

- (1) The plural—objectives—is used advisedly; it is no longer worth while to try to define education in terms of one conception. To do so is to broaden the idea to be conveyed until it is of value chiefly as a point of departure for other definitions.
- (2) Whatever the objectives agreed upon, the conception must include, among other things, one relating to the industrial field. cf. Dr. Sandwick's chart, found elsewhere in this report.

3. OBJECTIVES IN MANUAL ARTS

3. A consideration of the needs of the industrial field in education discloses three needs, or objectives.

- (1) An experience for those who are going into industry from the standpoint of manipulation—the vocational objective. The content, methods and other data concerning this objective are defined in both federal and state enactments and are not matters for debate except as it is proposed to modify the legislation pertaining thereto.
- (2) The second need, or objective, may be designated as one technical in character. The content and method of this objective is well defined in terms of certain present practice in such technical high schools as the Lane and the Crane in Chicago. The class of boys taking such courses are headed toward engineering positions, or positions in industry other than those of mere manipulation.
- (3) A third need, or objective, is one wherein it is aimed to give to the non-vocational and non-technical student an appreciation only of things industrial,

4. CONTENT OF MANUAL AND INDUSTRIAL ARTS

4. (1) In matters of content, the vocational courses will find their delimitation in terms of specific trade needs. There need be no confusion in the working out of this objective. Specific trade practices will indicate clearly the content.
- (2) Technical courses will probably not change much in matters of content, except to widen the variety of choice where administrative difficulties do not inhibit.
- (3) Appreciation courses will contain a minimum of shop or laboratory experience with a maximum of information. The adequate working out of this objective remains to be accomplished. No one knows just how much shop or laboratory work is required in order to furnish a basis in concrete experience for the proper evaluation of industry and economic information. Inasmuch as this objective will appeal to a large number of students in the general high school curriculum, there is need that particular attention be paid to working out its content and method.

5. METHODS IN MANUAL AND INDUSTRIAL ARTS

5. In matters of method, manual and industrial arts will continue to use, as they have always used, the problem-project method. True, teachers of these subjects will need to examine more carefully the projects or problems that the best only may be used.

6. STANDARDS AND TESTS IN MANUAL AND INDUSTRIAL ARTS

6. Standards and tests remain to be worked out in a more definite, or scientific, or objective way in all three of the objectives mentioned above.

Tools and appliances are available and trade practices have shown the manner of their usage. The standards and tests are well set in the trades for journeymen, both in matters of time and accuracy. There remains the adaptation of such standards and tests to vocational, technical, and appreciation objectives for different grades and ages of students engaged in the learning process, keeping in mind always the difference in objectives.

After a general discussion of topics suggested by the afternoon program the session adjourned and was followed by a short meeting of the Section Committee.

11. MATHEMATICS SECTION

The meeting of the Mathematics Section was called to order by Mr. H. O. Barnes of Springfield.

A motion was made and seconded that Miss Velda Barnesberger be elected Secretary to fill the position left vacant by Miss Cline.

Motion carried.

The morning session was occupied with the following reports and discussions.

(Paper by Dr. E. H. Taylor, Eastern State Normal School, Charleston.)

This paper was discussed by Miss Jessie Brackensieck of Quincy. Miss Brackensieck brought out the following points: First, that one of

the greatest difficulties in teaching algebra and geometry is that pupils do not have the necessary accuracy and speed in computation; Second, need of short methods; Third, importance of decimal fractions. Miss Brackensieck also stated that in her experience rural school children and children from parochial schools seemed to have better speed and accuracy in computations than the children from the public graded schools. General discussion followed.

Mr. Risley, Decatur, pointed out the need of mental arithmetic and analysis of problems.

Dr. Taylor, Charleston: As to the point concerning better preparation of rural school children, I gave Courtis Tests to children in both rural and city school systems in Cole County and found that the city school children exceeded the rural school children. The reason that the rural children appear to do better is probably because they are more mature and remain longer in the seventh and eighth grades.

Mr. Austin, Oak Park: I should like to make a motion that the Mathematics Section go on record as approving the universal adoption of the metric system. This motion was seconded.

Mr. VanCleave, Eldorado: What does this mean? If it means to accept the metric system and to discard the present system it will involve numerous problems. I should suggest that a committee be appointed.

Mr. Felts, Carbondale: Such a motion will not help the movement for use of the system. It will come into use only as there is a universal demand for it.

Mr. Austin: I am aware of the difficulties involved but simply wish to express the sentiment of this body.

Motion carried.

Report of the National Committee on Mathematical Requirements By J. A. Foberg, Vice-Chairman of National Committee

The National Committee on Mathematical Requirements was organized in the late summer of 1916 for the purpose of giving national expression to the movement for reform in the teaching of mathematics which had gained considerable headway in various parts of the country.

The membership of the Committee at present is as follows:

Representing the colleges:

- A. R. Crathorne, University of Illinois.
- C. N. Moore, University of Cincinnati.
- E. H. Moore, University of Chicago.
- D. E. Smith, Columbia University.
- H. W. Tyler, Massachusetts Institute of Technology.
- J. W. Young, Dartmouth College (Chairman).

Representing the secondary schools:

Vevia Blair, Horace Mann School, New York. (Representing the Association of Teachers of Mathematics in the Middle States and Maryland.)

W. F. Downey, English High School, Boston. (Representing the Association of Teachers of Mathematics in New England.)

J. A. Foberg, Crane Technical High School, Chicago (Vice-Chairman). (Representing the Central Association of Science and Mathematics Teachers.)

A. C. Olney, Commissioner of Secondary Education, Sacramento, California.

Raleigh Schorling, The Lincoln School, New York.

P. H. Underwood, Ball High School, Galveston, Texas.

Eula Weeks, Cleveland High School, St. Louis, Mo.

Last May the Committee was fortunate in securing an appropriation of \$16,000 from the General Education Board, which has made it possible greatly to extend its work. This work is being planned on a large scale for the purpose of organizing a nation-wide discussion of the problems of reorganizing the courses in mathematics in secondary schools and colleges and of improving the teaching of mathematics.

J. W. Young and J. A. Foberg have been selected by the Committee to devote their whole time to this work during the coming year. To this end they have been granted leaves of absence by their respective institutions.

The following work is being undertaken immediately:

1. To make a careful study of all that has been said and done here and abroad in the way of improving the teaching of mathematics during recent years.

2. To prepare a bibliography of recent literature on the subject.

3. To make a collection of recent text books on secondary school and elementary college mathematics.

4. To prepare reports on various phases of the problem of reform. Eleven such reports are already under way and others are being projected.

A "Report on the Reconstruction of the First Courses in Secondary School Mathematics" will shortly be ready for discussion. It is hoped that a committee will be appointed by this Conference to study this report and communicate its findings to Professor Young.

5. To establish contact with existing organizations of teachers with the purpose of organizing a nation-wide study and discussion of the Committee's problem. The Committee hopes to induce such organizations to adopt this problem as their program for the year. It is ready to furnish material for programs and also to furnish speakers at meetings. The organizations in their turn are to furnish the Committee with the results of their discussions and any action taken. In this way it is hoped that the Committee can act as a clearing house for ideas and projects and can be of assistance in coordinating possible divergent views entertained by different organizations.

6. To promote the formation of new organizations of teachers where such organizations are needed and do not exist at the present time. These organizations may be sectional covering a considerable area, or they may consist merely of local clubs which can meet at frequent intervals for the discussion and study of the problems of the Committee. It is hoped that such clubs can be organized in all the larger cities where they do not already exist.

7. To establish contact directly with individual teachers. The Committee feels that this is necessary in addition to their work through organizations in order to induce such individuals to become active in order to make the work through organizations effective. Plans for establishing this contact with individuals on a large scale are under consideration, possibly through the publication of a bulletin. These plans, however, are as yet in a tentative stage.

8. To revise college entrance requirements. Members of the National Committee have been appointed a committee by the Council of the American Mathematical Society, for the "reconsideration of the definitions of units in preparatory courses in mathematics as formulated by a committee appointed by the Society in 1903." This work is under way, and a preliminary report will be submitted to the Society at the coming meeting in New York during the holidays.

Organizations can be of assistance by sending to the Committee a statement of the name of the organization, its officers for the coming year, the time and place of its meetings and information regarding proposed programs. If any organization has within the last ten years issued any reports on topics connected with the work of the Committee, copies of such reports should, if available, be sent both to Mr. Young and Mr. Foberg. If this is impossible, a statement regarding the character and place of publication of any such reports would be welcome.

Individuals can be of assistance

1. By keeping the Committee informed of matters of interest that come to their notice;
2. By suggesting ways in which the Committee can be helpful;
3. By sending to the Committee in duplicate reprints of any articles they publish on subjects connected with the Committee's work;
4. By furthering the work of the Committee among their colleagues, organizing discussions, etc.

It is not too much to say that the existence of this Committee with its present resources gives the teachers of mathematics, both individually and through their organizations, a unique opportunity to do really constructive work of the highest importance in the direction of reform. They can surely be counted on to make the most of this opportunity.

Mr. Foberg suggested at the end of his report that the mathematics section appoint a cooperative committee to act in conjunction with the National Committee on Mathematics Requirements to collect data, criticize and distribute reports of the committee.

Mr. VanCleave, Eldorado: I move that a committee be appointed by this body to cooperate with the National Society.

Motion seconded. Motion carried.

At this point Mr. Barnes appointed the following as members of the nominating committee: Mr. Foberg, Chairman; Mr. Modesitt, Charleston, and Miss Martin, Decatur.

There followed a paper by Mr. W. T. Felts, of Carbondale, on

Curriculum Study and Readjustment in Secondary Mathematics

This paper can hardly be called a report, because the committee has not yet done anything tangible towards curriculum study and revision. It may more properly be called a foreword, or proposed plan.

It does not seem irrelevant in this foreword to attempt to get the proper setting of this study in the general educational situation, that is, to relate it properly to other closely related aspects of the teaching problem. Any plan one might vision in secondary mathematics implies the taking into account at least a few of the more general but related phases. Accordingly, this paper is divided into two major parts, one dealing with the topic's relation to other studies, and the other with proposed specific detail.

I

I. Curriculum study and readjustment is an opportune study. However, it is but a phase of a much larger movement.

II. Other problems, more or less related, are certain to arise in connection with such study. Among those most likely to be raised are:

1. Those relating to the claims of the doctrine of Formal Discipline.
2. Of college entrance demands.

3. Of established courses insisting upon a more generous time allotment.
4. Of tradition.
5. Of new courses seeking admission.
6. Of modernized social and business demands.

We seem to be living in one of those climacteric periods of history when institutional forces become unusually active. Some of these forces have quickened from the slower-moving evolutionary aspects into more violent revolutionary manifestations. Rapid and sometimes startling changes occur within a comparatively short time. The spirit of critical weighing of values and readjusting to changed conditions and new needs is permeating our entire institutional life, the larger, more fundamental and less elastic institutions such as church, government, industry and education not escaping this urge for weighing values and making new adjustments. To illustrate, practically every church denomination is planning large, comprehensive and expensive programs of a forward movement to cover the next few years. The ministry is calling upon the laity, or perhaps we should say the laity is calling upon the ministry for a twentieth century adjustment of Christian doctrine and practice. They want the eternal verities of the Ten Commandments, the Sermon on the Mount, the Golden Rule, and The Lord's Prayer given modern application. In short, the demand is for modernized, socialized christianity.

Again, almost over night we pass from a more or less loose—principally more so—liquor license system to a rigid regime of prohibition—perhaps; and from an independent nationalism to a more or less dependent internationalism, through a new instrument of government, the League of Nations—perhaps. Our own state feels the urge for new political expression through working over what is good in our basic law, taking on new functions of government and fitting them all to twentieth century needs.

In industry we see the heaven at work. Labor has never been so insistent of its rights, and perhaps of some things that are not its rights. It has sighted the dawn of a day of larger participation in the regulation and profits of industry and is demanding adjustments to accomplish these ends. We note a strong drift towards nationalization of *quasi public* interstate industries and public ownership of local public utilities. We cite these instances only to call attention to the fact that this spirit of investigation, evaluation and adjustment in education is only a phase of a much larger movement.

While through recent years educational leaders have been alert, open-minded and responsive to the changing needs of changing times, just at present, as in the other institutions named, that spirit of taking account, cutting out the useless, taking on what of the new has been proved of worth, properly relating them and adjusting them to present day needs, has been considerably quickened.

This spirit of investigation, evaluation and adjustment has affected every department of the teaching problem. Studying procedure and determining standards has affected every phase of elementary and secondary education as well as of higher education. School architecture is becoming an art-science; school administration is appropriating the things it needs from both business and professional education, and developing for us a new science. School sanitation has become a modern science; selection, organization and utilization of appropriate library materials has filtered from the university and college down through the high school even into the elementary grades.

This movement in educational readjustment has already extended down into classroom procedure where it is taking new account of the four fundamental elements in the classroom situation, viz: (1) dominating idea back of the school, (2) subject matter of instruction, (3) psychological immaturity and mental behavior of the child, and (4) personality of the teacher. We are re-defining the dominating idea back of our elementary and secondary schools in terms of efficient citizenship and modernized living. We are formulating new statements as to what constitutes efficient citizenship and complete living, setting up new standards and concreting methods of procedure whereby our objec-

tives may be attained. As never before, teachers are being weighed in the balance and their worth measured in terms of scholastic and professional preparation, attitudes, temperaments, habits, health, tact and that comprehensive, indefinable, imponderable quality called personality.

The child as the gravity center of the whole educational system is being scientifically studied and measured from more angles than ever before, and procedure for his wholesome, complete development determined in detail. We are measuring him with standard tests and comparing his achievements with standard scores. To use a street expression, "We are getting his number."

The fourth one of these fundamental classroom elements, subject matter, along with the others, feels this urge for readjustment. This particular element at present seems to be receiving as much if not more attention than any of the other three just mentioned. These forces are more active in elementary and secondary education than in higher education, and they seem to be more vigorous in high school curricula than those of the elementary school, due doubtless to the fact that the high school is our most recent educational unit to appear. Hence, a scientific study with a view to making necessary readjustments of subject matter seems a very opportune subject.

This committee's particular part of that study deals with the mathematics curriculum in the high school. This particular phase of curriculum study is particularly opportune now in view of the constant attacks being made upon the efficacy and practicality of high school mathematics as now organized. While doubtless it is true that most of these attacks are made by either those teachers who want more time for their own branches or those advocates of lines of work not yet recognized in high school curricula, yet some of them are made by unprejudiced school people who think that high school mathematics along with the whole range of high schools subjects needs overhauling. Most teachers of secondary mathematics agree with them in this, and it is in response to this feeling as well as to keep pace with this spirit of readjustments that this committee has been formed.

Any effort towards the study and readjustment of mathematics in the high school starts a whole train of more or less related problems. Before we get fairly started we run into the conflicting interests and claims of other branches such as the languages, the sciences, the manual arts, etc. The interests of other teachers than those of mathematics are drawn into the situation, and adjustments and compromises must be made. These settlements within themselves constitute problems. They are problems not to be solved by mathematics teachers alone, but by them in conjunction with the teachers of those other lines. Thus, while they are not exclusively our problems, nevertheless, they are our problems.

Among those questions most likely to arise in connection with high school mathematics curriculum revision a few might be mentioned; (1) The claims of the doctrine of formal discipline have not been sufficiently disproved or completely enough disproved to prevent it reappearing like Banquo's ghost. We know of course that it has been put to sleep many times—by its enemies—as they think. However, there still remain many practical-minded people who stoutly claim that the study of mathematics aside from its toolage value, gave them a power of analysis, a mode of thinking and an ability to grasp essentials in a situation and to properly relate them, such as no other line of study did. We know that many others waive such claims aside and say that they are mere opinions and have never been scientifically substantiated. Yet there are others who, not making the old exaggerated claims of formal discipline, are just as certain that there accrues to one through the study of mathematics an unmeasured factor—valuable in after life in multitudinous situations—derived only through the formal study of formal mathematics, and that because no one has yet isolated it and measured it, that of itself is no sign that such value does not exist. We neither defend nor attack these claims, but merely say that the con-

troversy is very apt to arise as a collateral problem in any extended curriculum readjustment.

(2) In any study of this kind, we must not omit consideration of the claims of college entrance requirements. The old adage runs, "Better be dead than out of fashion." Let us modernize it for high school principals by saying, "Better be dead than not on the accredited list." The dictation of colleges and universities in determining minimum courses may be losing power as some claim, but they still have a lot of it as everyone knows. More high school students than ever before are planning to go on to college or the university. The colleges and universities say that before they enroll these students without condition, they must have had a minimum of such and such courses, and woe befall the high school teacher whose pupils cannot "go over the top." This, then, is another factor which will affect our study.

(3) Another controversy practically sure to arise is one over the time allotment for the various branches of instruction. It cannot be settled by the stout claims of the disputants. There will be those who want more time for the manual arts at the expense of the languages, or mathematics, or some other line. The language teachers not only will not want to give up any courses now recognized but probably will want more, and so on. One problem in these curricula readjustments is the proper balancing of the several branches as to the time element. A happy solution might be brought about if someone should discover and formulate a principle for determining not only the branches that should be taught, but also the time allotment. The writer believes that the solution will be found in a greater elasticity in our high school courses. We admit that a student whose future work will not make any very great demands upon his mathematical knowledge should not be required to take four or five semester units of mathematics. On the other hand, if his future work will call for large use of mathematics, the high school should offer more than four or five semester units. Here, then, is one more problem.

(4) In attempting this solution there arises the claims of tradition. The old line studies such as Latin, algebra, geometry, physics, etc., will claim rights by virtue of the fact that for hundreds of years their value has been recognized. Any attempt of the biological sciences or manual arts to expropriate these old line studies must be backed up by scientific proof of their superior educative value. Here is another problem for no exclusive group of teachers.

(5) New courses in the manual arts are seeking admission. Heightened interest in community civics is making a strong demand for a larger recognition of it in our high school curricula. The Smith-Hughes law has put force behind the demand for vocational training. The various demands for the admission of new courses become collateral problems in high school mathematics study and revision.

(6) As indicated before the training of boys and girls into efficient citizenship is the dominating idea back of our public elementary and high schools. As this aim becomes more clearly defined, increased importance it attached to business usages and customs as items of instruction. This finds expression in the demand that becomes more and more insistent that the subject matter of high school mathematics be so selected, organized and taught that it will function more completely in other branches of instruction having mathematical elements, such as physics, manual training, etc., and subsequently in the out-of-school life of the pupils. This aspect of mathematics curriculum study and adjustment is one of the liveliest problems of the entire group.

The maximum number of mathematics courses allowed, and the minimum demanded, having been determined, what shall they be? With a minimum of three semester units shall they be one of algebra, one of geometry and one of arithmetic, or shall they be one and a half of geometry and algebra each? Admitting a maximum of six or seven semester mathematics units, what shall they be? Here is another problem, but one for mathematics teachers exclusively.

Let us hope that there shall be a minimum of four semester units with a possible maximum of seven.

We are now down to our particular study, looking as it does towards the readjustment of the mathematics curriculum. At this time, as chairman of a committee for this work, I wish to outline a proposed tentative plan which I hope will bring full and free criticism, in the light of which we may see fit to readjust our plans.

II.

- I. We should take stock.
 - A. Of present curricula, with included subject matter, through a questionnaire.
 - B. Of what has already been done towards mathematics curriculum study and revision.
 - C. Of what is now being done, with a view of organizing coöperating groups.
- II. We should organize a representative working group which could meet frequently enough to keep the work moving.
 - A. To secure cooperation of as many secondary mathematics teachers as possible.
 - B. To organize from them a steering committee.
 - C. To appoint a statistician.
- III. This steering committee should
 - A. Formulate the problems.
 - B. Set up tentative objectives.
 - a. As to the mathematics branches to be included in the curriculum of a four-year high school.
 - (1) In the maximum course.
 - (2) In the minimum course.
 - As to the relative amount of time to be given the various mathematics courses.
 - c. To determine a plan for selecting, balancing, weighing, and relating the subject matter of secondary mathematics.
 - C. To determine the methods of evaluating the data.
 - D. To determine the procedure in the various studies, and to set up the machinery for securing data.
 - E. To publish a report.

I think the first important step is to take stock. I know that just at present we are surfeited with questionnaires and there is a probability that many of these inquiries would go into waste-baskets, unnoticed. That always happens. We had intended to take this first step before this meeting and incorporate our findings in this paper, but not being able to get a mailing list in time, we did not wish to make it appear an impersonal thing by sending them out addressed to "The Teacher of Mathematics, — High School". Nor did we want to trust them to the tender mercies of over-questioned principals in these times of multitudinous questionnaires. This questionnaire should go to fully one hundred and fifty high school mathematics teachers in Illinois.

Among the more important data sought, we should include maximum and minimum requirements under present courses; what mathematics branches are taught; time allotment for each, both for study and recitation; texts in use; topics covered with time allotment; degree of coördination attempted; method of organization,—that is, whether unified mathematics, fused mathematics or the traditional differentiated units.

This group should also investigate and check up on the various efforts that are being made to reorganize mathematics subject matter, as for instance, *unified* mathematics, *fused* mathematics, or organization around the notion of

functionality. Out of this study they should determine a mode of procedure that all cooperating schools could follow, thereby insuring some unity of results.

While no reference has yet been made to the mathematics curriculum of two and three-year high schools, after fairly definite results shall have been obtained from the study of the curriculum of four-year high schools, the natural and logical thing to do would be to use such results as a standard for reorganizing the mathematics curriculum of the two and three-year high schools.

It seems hardly necessary to say that whatever findings this committee makes should be published, and through some medium worked out by the committee, made available for the use of high school mathematics teachers.

No one can hope that the first efforts towards adjusting the secondary mathematics curriculum shall prove completely satisfactory, but it seems to the writer that by following such general plan as suggested for a period of years, making such changes from time to time as the wisdom of experience determines, that after awhile we could have a community of objectives, standards, procedures, view-points, etc., and with it all, a reason for the faith that is within us.

Afternoon Session

Mr. E. W. Schrieber, Proviso Township High School, Maywood, Illinois, was appointed to report to the general meeting Saturday morning.

Mr. Felts was appointed chairman of a committee to cooperate with the National Committee on Mathematics Requirements for the study of Mathematics. The executive committee reported the following recommendations: First, that expenses should not be paid to speakers from the State of Illinois, and Second, that one half day of next year's program be broken up into two conference groups for the study of special problems.

Then followed a paper by Miss Velda Barnesberger of Urbana, on the question

Does Departmental Organization Result in the Better Teaching of Mathematics—A Plan of Study

Last January the Bureau of Educational Research received from Miss Cline, Secretary of the Mathematics Section, a letter in which she proposed for study by the Bureau, two problems which had originated at the November meeting of the High School Conference. They were as follows: (1) Is there statistical evidence that the departmental organization of the seventh and eighth grades results in better teaching of mathematics, and (2) What is the average, maximum and minimum time given in the seventh and eighth grades to the teaching of the various topics of arithmetic. The request was also made that data for question 2 should be obtained from Illinois School Systems.

This paper will be concerned primarily with question number one, namely, the efficiency of the departmental teaching of mathematics. Question number two will be discussed only as it relates to number one. As a matter of fact, the Bureau has planned to obtain evidence on the amount of time spent in teaching various topics in arithmetic both in connection with the study of the efficiency of the departmental teaching and independently. We shall, therefore, dismiss question number two with these statements: First, that no material is available in published form, concerning Illinois school systems which would tell us how much time they spend on the various topics of arithmetic.

Second, that this type of investigation will be undertaken as part of the investigation suggested by question number one, and Third, that an extension of the study of time devoted to topics will be made to a large number of schools and to grades not ordinarily departmentalized.

Upon the receipt of Miss Cline's letter an attempt was made to find published material dealing with the questions. A very few investigators have made studies concerning the efficiency of departmental organizations, and in most cases they have failed to take account of a number of variable factors which are present to an unknown degree in the teaching both of departmental classes and the grade classes with which they are compared. A still fewer number of these investigators have published their findings. None of the studies related definitely to the teaching of mathematics.

Since, therefore, there was no published material on the questions, it was decided to use them as topics for investigation. The questions, however, came to hand at a time when the major projects of the Bureau had been definitely decided upon for the year. It was felt that the question of the efficiency of the departmental teaching of mathematics was big enough to organize as a major project and that it would have to be conducted over a rather long period of time. The only point we wish to make now is, that to do the work right required more time and more planning than were possible last year. Consequently plans were made to begin the investigations during this school year.

There are many factors which complicate the study of the efficiency of departmental organization in the teaching of a given subject as compared with the efficiency of the teaching of the same subject under the grade organization.

Among these factors are: (1) the mental levels of the various classes studied; (2) the quality of teaching in the various classes. Under this heading would come such points as the experience of the teacher, her preparation, and her ability to teach; (3) the curriculums pursued by the various classes. This would include the topics taught and the time devoted to them, the text books and accessory material used; (4) other administrative arrangements, (i. e., other than the departmental or grade arrangement itself). Such administrative arrangement might include promotion by subjects, helpful supervision, provision for supervised study, etc. Indeed the list under this heading might be almost indefinitely lengthened.

In the ideal experiment the factor to be studied is separated out and the other factors are either kept constant, or their operation is known and allowed for. Obviously in an experiment such as ours the factors entering into the problems vary for each school and cannot be kept constant. The only alternative, therefore, is to select the most important factors and to measure as far as possible their effect upon the outcome of the teaching of mathematics under departmental or grade organization.

In order to carry on the project it was necessary to obtain the cooperation of a number of school men of the State. Last spring we sent out to the schools in the state having departmental organization, a questionnaire in which we proposed the topic and asked if they would be willing to participate in a study of it this year. Practically all of these superintendents indicated their interest in the problem and their willingness to take part.

This fall superintendents and principals of additional departmental schools were approached, together with a rather large number who had grade organizations. The schools having grade organizations were, of course, intended to represent the control group while the departmental schools were to constitute the experimental group. We were equally successful in enlisting the help of these additional school people.

The cities in which the work will be undertaken are: 1. Atlanta; 2. Belleville; 3. Carmi; 4. Charleston; 5. Dundee; 6. Freeport; 7. Galesburg; 8. Monmouth; 9. Pekin; 10. Pinckneyville; 11. Pontiac; 12. Rock Island; 13. St. Charles; 14. Watseka; 15. Woodstock. In Chicago the following schools are

represented: 1. Budlong; 2. Gage Park; 3. Grover Cleveland; 4. Howland; 5. Jirka; 6. Manierre; 7. Mayfair; 8. McCosh; 9. Oglesby; 10. Sabin; 11. Washington Irving; 12. Yale.

From the returns on the questionnaire sent to these superintendents and principals we found that many forms of departmental organization existed in the state. Most of the departmental organizations included the 7th, 8th and 9th grades or simply the 7th, 8th grades. A few included the 6th grade and one or two the 5th. The departmental organizations of a few cities were considered too rudimentary to be used in the study. Unless a teacher taught two or more different classes in arithmetic, the school was not considered as having departmental organization for the purposes of this study. It was also found necessary to limit the study to 7th and 8th grades since in the grade organization there was no equivalent to the departmentalized 9th grade, and since so few 6th grades were included in departmental organizations.

The plan is to carry the investigation through one entire semester. The answers from the school people who are to take part in the study were not received in time to begin work at the opening of the first semester this year. Consequently we shall wait until the second semester. Moreover, it is desirable to keep the identity of the pupils throughout the test period. If the experiment had been started during the first semester and allowed to run into the second semester, it would have been difficult to trace pupils on account of changes in classes and schools. It is desirable that the final data deal only with pupils from whom complete information has been obtained.

In order to determine the efficiency of the work being done, two subject-matter tests in arithmetic will be given to all of the pupils in both the departmental and grade organizations. One of these will be Mr. Buckingham's new Problem Scale in Arithmetic. This is a scale which was derived from a large amount of testing, a part of which was done in school systems of the state last year. The other test will be Dr. Monroe's Diagnostic Test in Arithmetic which measures a pupil's ability in the fundamental operations and also his ability to use fractions and decimals. These tests will be given at the beginning of the second semester. An alternative form of Dr. Buckingham's problem scale—a form of the same difficulty as the first—will be given in June. Dr. Monroe's Diagnostic Test will be repeated at the same time. From the nature of his test it is unlikely that any memory of the test will exist in the minds of the pupils after 4 months have elapsed. The improvement in a given class between February and June will be taken as a measure of the efficiency of the teaching of arithmetic in that class. By such a method we obtain a measure over a definite trial period. If only one test were used, we should have no way of knowing what part of the score was due to the work in the grade in question. A pupil's ability is the result not only of the influences (including teaching) to which he is being subjected in his present class, but also of his native capacity and previous experience in other classes.

We have indicated that one of the important variable factors to be considered in an experiment of this sort is the mental levels of the different classes. In order to determine this and thus be able to allow for it, a simple group intelligence test will be given. It was our desire to use a test which would be simple to administer and for which standards had been worked out. It is probable that Holley's Vocabulary test will be used. This test consists of 50 sentences. At the end of each sentence are four words—one of which completes the sentence and makes it a statement of fact. The pupil underlines the correct word. In the work which Dr. Holley did in mental testing last year he found that this test correlated very highly with the combined scores of a number of group intelligence scales, such as The Otis Scale, Whipples' Group Test for Grammar Grades, Theisen's Classification Test and the test devised by Dr. Haggerty for the Virginia Education Commission. He also found it to correlate highly with scholarship and with the teachers' estimates of the intelligence of the pupil. There may be some question as to the advisa-

bility of determining the mental level of a class from one test. The fact that the test is so readily administered, that the results from it have thus far been so favorable and that it is to be used simply as an indication of the mental level of the group and not of individuals, seem to more than outweigh the objections which might be raised against it.

Another variable factor which has been mentioned is the quality of the teaching. Several subordinate elements enter into this question, each of which is, to a certain extent, an index of teaching ability. One of these is the preparation of the teachers. A quantitative statement of this may be put in the form of "the number of years of training beyond high school graduation". Other things being equal we should expect longer training to produce better teaching. We shall, therefore, obtain information as to schools or colleges attended, degrees held, professional courses taken, etc.

Another element is the experience of the teacher. Other things being equal and up to a certain point we shall expect length of experience to result in better teaching. On the same forms which contain the information about training will also be shown the length and character of each teacher's experience.

In order to measure the quality of the teaching more directly each superintendent will be requested to rate the teachers participating in the experiment by the use of a score card supplied by the Bureau.

With reference to the variation in curriculums, we shall seek information on the following topics: (a) the text-books in use; (b) the total time devoted to arithmetic; and (c) the time devoted to each topic in arithmetic. This last point will also provide a part of our subsequent answer to the second question proposed by this section last November.

The administrative arrangements other than the particular one we are investigating—the promotion plan, quality of supervision, supervised study and the like—can for the most part be measured only very roughly. We shall try, however, to take such account of these matters as we can and make such an inference as good judgment in the light of the facts permits.

We have already pointed out that few investigators have attacked the problem of departmental teaching. For the most part those who have done so have come out with negative results—that is to say departmental instruction has seemed to produce no better results than grade instruction. The real reason why negative results have been secured may very well be due to the existence of so many factors each having an unknown effect on the results. Unless the effect of these factors is determined and subtracted from the gross results no valid basis of comparison exists. So far as we know such a determination has never been made.

We feel that after this study has been completed we shall be in a position to offer an answer, to the original question proposed by this section of the high school conference, which will cover the following points: (1) The gross difference in the improvement among children in departmental schools over an experimental period; (2) The net improvement between the same groups of children when the effect of all the above mentioned factors, so far as this effect can be ascertained, has been subtracted out. This would give the difference if any exists which would be entirely due to the machinery of departmental as opposed to grade organization. That is, it will give the differences inherent in the machinery. For example, the departmental school permits the teacher who is a good arithmetic teacher to teach that subject. The grade organization on the other hand would require the same teacher to teach geography, grammar and history as well as arithmetic. It is believed that this is likely to be an advantage for the teaching of arithmetic. The conclusion which we shall attempt to reach after subtracting out the effect of the variable factors, will be an answer of the question of the extent to which this is true. On the other hand, it is contended that the grade organization permits the continuous influence of the teacher to be exerted in all subjects, thus permitting

one subject to correlate with another—for arithmetic problems to be on geographical or historical material, for example—and that thus the grade organization wins out through the mutual support which the teaching of one subject gives to the teaching of another. Again our results will attempt to show whether or not this is true. (3) But perhaps there are certain factors which should not be subtracted out. One may say that a departmental plan, although not of necessity securing better teachers, may by its superior attractiveness secure them. It may be properly urged that a system which attracts good teachers by providing better conditions of employment is entitled to any superiority in the results which come from a superior teaching body. This would be maintained on the ground that the presence of better teachers was indeed a part of advantages rightfully belonging to the departmental plan. Accordingly we shall offer a solution of our problem with the effect of some of the variable factors included.

On the whole, therefore, it is fair to assume that when this investigation of the efficiency of the departmental teaching of mathematics has been completed the mathematics section may expect something fundamental and satisfactory in answer to its question.

Geometry by Analysis, was the Next Topic, Discussed by F. H. Allis, Springfield, who spoke as follows:

Perhaps at the beginning of our discussion of geometry by analysis, it would be best to differentiate between two kinds of geometric proofs—the analytic and the synthetic. We are all well aware that the usual demonstration in geometry is synthetic: a certain theorem or exercise is given the pupil, and it is expected that after studying the proposition carefully, he will build up step by step a logical proof, the last statement in this demonstration being the fact which the student set out to prove, the *Quod Erat Demonstrandum* of the proposition. The form which these synthetic proofs take is usually that of a series of statements (the argument) each statement backed up by an authority, which may be an axiom, a previously proved theorem, a definition, the hypothesis of the proposition, or a construction. The method which I have just outlined—the synthetic method—is as you know the one used practically universally by geometry teachers and geometry texts.

Numerous authorities on geometry have however recognized the usefulness on occasion of the strictly analytic method of attacking both problems and theorems. For example, the Wentworth-Smith "Plane and Solid Geometry" (p. 80) states that the analytic method "is resorted to when we do not see how to start the ordinary synthetic proof." The analytic method "asserts that a proposition is true if another proposition is true, and so on step by step, until a known truth is reached." It is further stated (p. 140) that the analytic method is the usual method of attack for problems, also. Since geometric problems require a construction, the analysis of a problem means that the pupil supposes the problem solved, and sees what results follow. Then he studies to see if it is possible to attain these results, and thus effect the required construction. Other texts, as Newell and Harper, and Bush and Clarke, utilize analysis as an important adjunct method in geometry, but none of the texts named nor others so far as known place the chief emphasis upon analysis. In general analysis seems to be considered as a valuable method of attacking problems, is occasionally of use in working exercises, but is not utilized for proving theorems. It has been assumed that the normal, logical geometrical presentation is synthetic.

During the past two years, the experiment of using the analysis method for practically all demonstrations in geometry, with the consequent elimination of the synthetic method, has been carried out in the courses in plane geometry in the Springfield High School. A discussion of the vital points of the

analytic method of demonstration has been presented in the October number of the *School Review* by Mr. H. O. Barnes, head of the Department of Mathematics, Springfield High School. For our discussion, a resume of a part of this article is necessary.

The analytic method arose from difficulties noted in working with the synthetic method. In the usual geometry class, handled synthetically, there are always a number of pupils who fail to grasp the real significance of the argument. They study a demonstration as presented by the teacher or the text, assent to all or the easier parts of it, often overlook wholly some significant points and do not bring a constructive attitude toward the work at all. On a higher plane than these we have those other pupils—so much a bane to the instructor in geometry—who are apt memorizers, who can grasp the synthetic presentation and have the faculty for remembering figures and steps in the argument, and who make a perfect demonstration if no questions are asked requiring a deviation from the proof they have committed. We are all only too familiar with pupils of this type, I am sure, and have resorted to various devices to meet their case. We have again those superior pupils who can complete their work satisfactorily in a minimum of time and who often make a problem in discipline because of the difficulty in keeping them properly employed. The largest of these difficulties is of course the first—the fact that altogether too high a percentage of pupils fail to get from geometry what they should; training in constructive thinking. We will grant that it would be a long step toward our goal if pupils could be led to develop, each for himself, a large part of each demonstration. As an attempt to meet these problems and advance toward the desired ends in the teaching of geometry—not as a panacea for all the difficulties that confront the teacher—there is much to be said in favor of demonstration by analysis. There is no doubt that a pupil's active thinking in attacking an exercise or problem is largely analytic. He first concentrates his attention on what he is to prove, and tries to bring axioms, theorems, etc., to bear on what is given to reach this conclusion. If his reasoning is then largely analytic, it would seem best if the expression of his reasoning through the demonstration might be also analytic.

As a preparation for demonstration by analysis the pupils in our courses are first instructed in certain forms and in a certain routine of presentation which constitute in a measure the tools with which they attack their daily work. The pupil must understand what is meant by majors and minors and he must be able to use the analytic form paper. The acquiring of facility with these forms means that progress at first is comparatively slow.

As an illustration and explanation of the routine and the forms just mentioned, permit me to work out a theorem or two by analysis. (If the bisector of the vertex angle of a triangular is perpendicular to the base, the triangle is isosceles. If the opposite sides of a quadrilateral are equal, the figure is a parallelogram.)

In preparation for a recitation in geometry, I make an assignment to be worked out in a forty-five minute supervised-study period. The assignment of course varies, but usually includes a theorem and one or more exercises. For working out the theorem usually some suggestions are given for the guidance of the pupil, as it is of course evident that in developing a proof for a new proposition some direction is necessary. These suggestions may take the form of an outline which may be written on the board, or the suggestions may be dictated. The plan is usually to state that certain theorems or authorities may be used in the proof, leaving the pupil to make the application, rather than to give the pupil steps in the argument and let him find the authority. It is felt that this plan makes for more constructive thinking on the part of the student. The suggestions must be made with discrimination, and adapted by the teacher to the needs of the class. In general they should be made quite limited, and the slower pupils can receive some personal direction in the way of leading questions, etc., which the better pupils do not need to work out

the proof. The plan for the suggestions, as set forth in the article by Mr. Barnes is:

1. The suggestions should be such that, together with the quantity of work, they will keep the brightest pupils strenuously employed.
2. The duller pupils should be able to make some definite progress.
3. The suggestions should leave as much as possible to the pupils.
4. At the same time the suggestions should make it possible for all or nearly all the pupils to work up the demonstration.

For instance the first proposition which we worked out a few moments ago, might be handled with these suggestions only:

"First major depends on one minor, the authority for the major being Paragraph 69. This minor requires proof, so it is made the second major."

When the pupil looks up Paragraph 69 he finds the principle, "In congruent triangles, corresponding sides and corresponding angles are equal." He infers that the proof depends on showing triangles congruent, and from this beginning he develops the majors and minors for the demonstration. In working out the proof for some theorems, of course more suggestions are required, especially in those cases where the class has not done much work of similar nature. In the second proposition which we considered a few moments ago, the suggestion might include the given and the required, the figure, and citation to several authorities used in the demonstration.

I will conclude my discussion with a brief evaluation of the method—my own reaction to the plan which I have tried to outline for you. Before the war I taught for five years in Kansas, handling various combinations of subjects, with usually two or more classes in mathematics. The geometry I taught was handled of course by the usual synthetic method. As part of my work this year in the Springfield High School I have three classes in beginning plane geometry, in all of which the instruction is analytic. In comparison with the other classes I have had in former years, I note the following improvements which I unhesitatingly ascribe to the use of the analytic method:

1. A larger percentage of the pupils are interested in the work. Out of the hundred pupils I have, I do not think there are over five who dislike geometry.

2. The problem of the memorizing student disappears. The pupils develop their own theorems, and there are no text-book demonstrations to commit.

3. A more constructive attitude on the part of the pupils is very evident. The goal in geometry ceases to be largely one of mere understanding—of comprehension—but becomes one of doing. As one girl of only average ability said to me a few days ago, "What I like about geometry is that every day at the close of the class I feel that I have accomplished something." This feeling is common to a large proportion of the pupils in the three classes.

Possible objections to the method, it seems to me are:

1. The number of theorems and exercises covered will probably be smaller than with the synthetic method—that is, the development of the proofs analytically requires more time.

2. Occasionally the method seems a trifle cumbersome, perhaps, because the form of proof is less informal and less flexible than in the synthetic method.

3. Though most of the pupil's constructive reasoning in geometry is analytic by nature, I think that in many exercises the pupil may reason in part synthetically. In so far as this is true, to that extent, demonstration by analysis of course does not follow the pupil's reasoning exactly.

My personal opinion is that these objections are relatively unimportant, when we consider the decided advantages of demonstration by the analytic method.

An extended general discussion followed the presentation of this paper.

Mr. C. M. Austin, of Oak Park, Presented the Final Paper of the Session. His Subject was Mathematics Clubs.

1. ORGANIZATION OF THE CHICAGO CLUB

The Chicago Club was organized in 1913. Mr. J. R. Clark of the Chicago Normal School was then teaching in Oak Park. We felt the need of a wider acquaintance and contact with other teachers of Math. and decided we would attempt to form some kind of an organization. So, we sent out a letter to a few other teachers of whom we had heard. The first meeting was held at the City Club in November, 1913. Only ten or twelve men attended; all, however, were enthusiastic teachers of the subject and anxious to meet others of their kind in an effort to increase their knowledge and to improve their work.

Several teachers openly asserted that interest would soon flag and that no one would come to the meetings. The opposite has happened. Both the number attending and the interest in the work of the club have increased. This year the club is bigger and better than ever. The number attending is never less than thirty and often is fifty or more.

2. WHAT WE HAVE DONE

Meetings are held each month during the school year. First we have a dinner at 6 P. M. The discussion follows and closes promptly at 9 P. M.

The success of the club in my opinion was due to the informal nature of the discussions. Very few formal speeches or papers have been given. Men have felt free to express their opinions in a conversational way across the table. The best meetings occurred when no program even had been arranged. Some class room problems were discussed in a free and easy way, every one participated and received the benefit. A person usually receives benefit in proportion to what he puts into a meeting. Some one asked an old lady, who had attended a prayer service if they had had a good meeting. She replied, "Yes, I spoke."

Besides these informal discussions two important formal reports have been made. The first was made by a committee of which Mr. Raleigh Schorling was chairman. The report was entitled "Mathematics of Tomorrow" and embodied our idea of what the Mathematics of the present time should consist. It was published in *School Science and Mathematics* in 1914. The second report entitled "Valid Aims in Mathematics" was written by a committee of which Mr. Alfred Davis, now at Soldan High School, St. Louis, was chairman. It was published in *School Science and Mathematics* in 1917.

The club has influenced opinion. Scarcely a program has been put on here in Illinois that some member of the club has not had a part in it. Our influence has extended to other cities. Mr. W. D. Reeve, formerly in the High School at University of Chicago, now in Minneapolis, has organized a flourishing club in that city.

Teachers of History have also organized and have a splendid club.

3. WHAT THE CLUB HAS DONE FOR US

Before the club was organized I did not know another teacher of Mathematics in the city or suburbs. Now, I know all the other teachers of Mathematics in the city. This to me has been a very valuable feature. The wider acquaintance one has and the more points of contact with the outside world, in that degree he is a better teacher. This club has increased the solidarity of the mathematics teachers. We feel now the support of an intelligent group. Before each one acted alone.

4. TASKS AHEAD OF US

1. Reorganize subject matter. We have all seen the subject matter of arithmetic changed in our time. True Discount, Partial Payments, Annual Interest and other useless topics have been taken from arithmetic and no one

seems to miss them. It is just as good a subject as before, only now it is more in accord with the spirit and needs of the time. So with algebra. We must realize that it too needs some changes in order to fit more closely the modern conditions. If the friends of the subject do not see after this reorganization, then outside forces will do the task in no gentle way.

2. Experimentation. Here is a wide and important field of work. We should not be satisfied with the old methods of teaching. Experiments should be carried on. The results should be brought before a group of teachers for criticism and suggestion. It is only by cooperation that this work can be done successfully. Determine the degree to which training in high school mathematics carries over into other fields of learning. There are many theories but few experiments to prove anything.

3. Mathematical program for the Junior High School. This new institution is upon us. New schools are being set up all over the country. But what is to be the course in Mathematics? No one seems to know. Many theories are abroad, but no definite knowledge. Here is a task for every Mathematic Club.

4. College Entrance Requirements. These requirements are about to be changed. We teachers are vitally interested and can have some voice in the changes if we but put ourselves to the task. Individuals, however, can do little. An organization can do much. It has solidarity and the force of numbers.

We can maintain high standards for those entering the profession. A group of enthusiastic teachers acting together is bound to attract attention and draw others into the same work.

We can boost mathematics. When others are criticizing and attempting to minimize its importance, a group of enthusiastic supporters can do a great deal to counteract the effect of such work. The critics lose no opportunity to knock. We should use every opportunity to praise and set forth the good points of the subject. In my opinion there never was a time fuller of promise for mathematics than the present. The war emphasized the importance of mathematics. People are regarding it as an essential part of the curriculum without question. We, however, can not be idle. We must organize the subject matter to fit modern needs and present it in the best possible way.

My plea to you fellow teachers is to get together in groups to further interest in mathematics. If there are not enough teachers in your town for a club, then form a county organization. Cooperate with other clubs. Let the people know that the mathematics teachers are alive to the needs and possibilities of the time.

Business Meeting

The question of having one session of the section divided into conference groups was discussed.

Mr. Foberg: I move the question be referred to the next year's executive committee with power to act.

Motion seconded.

Dr. Taylor: I think our interests are near enough alike to not need more than one session.

Mr. Lytle: Prof. Hollister has a feeling that conference sections are getting too large for teachers to get together and discuss problems. He wants this to be a conference in which each teacher takes part and not a convention. A suggestion has been made that one group discuss algebra and another geometry. The objections are that we are all in-

terested in both subjects and the most interesting section would draw the largest crowd. Perhaps the best plan would be to choose two large problems and let each group discuss one.

Mr. Van Cleave: Why not have the same topics discussed in both groups?

Motion carried.

Mr. Foberg presented the following report of the nominating committee: Chairman, Mr. W. E. Felts, Carbondale; Secretary, Miss Velda Bamesberger, Urbana, Ill.

A motion was made and carried to adopt the report of the committee and elect accordingly.

Section adjourned.

MISS VELDA BAMESBERGER, *Secretary*.

12. MODERN LANGUAGE SECTION

The morning session of the Modern Language Section met in the Southeast Room of the University Place Church, Miss Blenda Olson presiding. The meeting was called to order and announcements were made by the Chairman.

Professor Thomas Edward Oliver, University of Illinois, State Chairman of the Foundation for International Educational Correspondence, read a paper setting forth the purposes and plans of George Peabody Foundation for International Educational Correspondence.

Before reading his paper, Dr. Oliver spoke for Mr. Coleman, University of Chicago, on the need of getting subscribers to the Modern Language Journal.

This paper was discussed by Mr. Bovee, University of Chicago High School. Mr. Bovee gave an instance of a Chicago boy who corresponded with a French boy during the war. The Chicago boy went to France and met the French correspondent and thus became acquainted with a very charming French family.

A report for the Representation of the Modern Language Section in the Committee on Curriculum Reconstruction was given by Miss Eunice Prutsman of Chicago. Miss Prutsman gave as reasons for Reconstruction:—The percent of failures, the number who leave school and the criticism of outsiders. She spoke as follows:

Report of the Committee on High School Curriculum Reconstruction

Because of (1) the large percentage of high school students who enter but never are graduated, (2) the large percentage of failure, especially in the first two years, (3) the bitter criticism of inefficiency, charged to the high school, and, (4) the fact that progress in every line has demanded changes, every one who thinks feels that, at least, the high school curriculum should be examined, and probably altered

to fit changed conditions. It is my purpose to mention several of the present criticisms so that each one may weigh them carefully, without being influenced by any arguments of mine. All educators must be open minded enough to face criticisms, and, if there is any real cause, remove it.

Mr. Bobbitt's "Curriculum" gives a very good summary of the attacks on modern language teaching. He says: "What are the specific shortcomings and forms of arrested development due to a lack of modern language training?" He asserts there is no need for public expense, if there are no important defects, resulting from the lack of such training. He mentions five phases in which the pupil might be deficient: 1st, is he deficient in the performance of his calling, 2nd, in his civic duties, 3rd, in personal hygiene, 4th, in the proper use of his leisure, 5th, in a defective use of his mother tongue? It is rather interesting to note that no ordinary business employer ever attributed an employes' failure to his lack of training in algebra.

The objects of language teaching are likewise attacked. (1) If we claim that our object in modern language teaching is to give the student a speaking knowledge of the foreign language, the other side maintains that our time is too limited to do it well, and that a student so trained is not understood in the country whose language he is speaking. (2) If we say that we train for commercial purposes, they say business houses prefer native Spaniards, not American Spaniards. (3) If we say that by such training a student obtains greater fluency in his mother tongue, they say, don't waste time on a "go-between," give him more training in English. (4) If we say we give him a basis for broad reading after leaving school, by such training, they say, who, besides college professors, ever reads books in the original when they are not compelled to? Let them read translations and thus become acquainted with master minds of all countries. (5) If we insist that we develop a broader view, a more sympathetic understanding of nations that will lessen the likelihood of war, they say, do not waste time on the drudgery of language construction, give history courses and literature courses which emphasize different countries' characteristics, ideals, etc.

It seems to me our failure has been, not that we did not have an aim, nor that we have not tried to select material to fit that aim, but that we have not *analyzed our aims* and the *students' needs* to workable units.

Usually the aim of the present day is given as "social efficiency." In a matter such as history, the aim subdivides itself into several heads easily: such as, what history should be taught to aid in (1) self preservation, (2) parenthood, (3) citizenship, or (4) occupation of leisure. Then suppose any one of these is analyzed again. To be a good citizen he must be taught to have a national not local view point, and so to study factory legislation, public health, candidates' fitness for office, and the labor and capital problem. Then each of these should be analyzed and "reanalyzed" till there is a definite foundation for a

course of study. In manual training they are deciding just what problems the boy will meet in life, for which he should be prepared by the school. Mending screens, fixing sagging doors, tightening screws, connecting electric bells, etc., are easier needs to be located than in our department.

In selecting the material we have too often picked out what custom and age had hallowed, or what was easy for us as teachers, what we liked, what colleges thought we should include, what was a good brain developer. Of course, we have tried spasmodically to interest the pupil, to correlate with other high school subjects to get in touch with the social activities and problems of the community. But our efforts so far have been haphazard, not scientific. *All* that the past has taught must neither be pushed aside as absolutely worthless, nor must it *all* be retained as perfection. Inspiration is necessary but perspiration is a factor too often neglected. The best curriculum of modern language training can not be found in a committee meeting nor after a year's study. It will and must constantly change. It will be necessary to work toward the best curriculum as long as the world stands. It seems to be our part in this evolution to *persistently analyze* our aims, the needs of our pupils, and try to arrange the material selected, in the way best suited for the mastery of the *child*.

The discussion of the paper was as follows:

Some one suggested that we find the percentage of high school pupils who go to college from high school. It was formerly six or seven percent. It may be ten percent now. The high school is not primarily to train pupils for the university but for life, as most pupils do not attend the university.

Miss Olson continued this discussion. Pupils who are to work in stores or in homes ask, "Why should I study such a language?" The teaching of modern language is not so much as formerly a help to English as it is now taught.

A further suggestion was made to supplement the scope of investigation by finding out the actual experience of each boy and each girl, thus we could get good information and criticism. Discussion was closed.

Dr. Fitz-Gerald, University of Illinois, made the following announcements. Let there be no split between language sections. Vote so we can get a sequence of languages. In the four year curriculum language sequence recommended is Spanish, Latin, French. In the six year curriculum, the sequence is Spanish, Latin, French and German. Mr. Fitz-Gerald is willing to vote for another sequence but we must have sequence. The proportion of language work is too heavy in high school. The N. E. A. refused to give more than two credits out of sixteen for foreign language. The proportion to vote for is not with the idea that our opinion should dominate but to put into practice in America, what has been shown to be well in other countries. Mr.

Fitz-Gerald asked those who wanted Spanish games to leave their names in order that publishers might be encouraged to risk putting money into them.

Miss Olson asked if anyone present was teaching German: if anyone expected to teach it next year or the next. There was no one.

Mr. Arthur G. Bovee, University of Chicago High School, spoke on the subject of Teaching Vocabulary by the Direct Method. Mr. Bovee stated that the teaching of vocabulary by the direct method was more effective than by translation. He also stated that he had studied in France and Germany and had visited the great authorities on the subject. Gurrio the exponent of the Direct Method uses the sentence as opposed to the word. In the *Muster-schule* the dominant note is action. The word meaning is shown mostly by action. In case there is no picture call up mental image by actions. We must not only know how to teach vocabulary but what to teach. We must teach the concrete, what is near to the pupil, what the student needs, not only in class but also in life. The vocabulary used by the teacher should be learned by the pupil. Let the teacher not talk about French in English. What is the best method of teaching vocabulary without the use of English?

Teaching Vocabulary by the Direct Method

The subject of this paper is the teaching of French vocabulary by the Direct Method, which means the teaching of French words without having recourse to the mother tongue. How can the meaning of French words be conveyed to the student without using their English equivalents? That is the question we must answer, and in so doing, I hope to be able to show that it is more effective to teach vocabulary this way than by the translation method.

In the early spring of 1913, it was my privilege to go to Europe to study the Direct Method. For four months I visited the classes in English and German in Paris. I found in practically all cases that *pictures* and *actions* were the only means employed to convey the meaning of words. The lack of logic, the lack of *enchainment* or *rapprochement* in the vocabulary taught, was generally quite evident. There was, however, a teacher of German in the *Ecole Supérieure Arago*, M. Louis Marchand, whose writings speak much of an intuitive method with a very definite progression of vocabulary. Furthermore, his plans for a French text-book included etymological trees from Latin roots such as "scio" and "amo." Yet his own text for the teaching of German depends almost exclusively on drawings to convey his meaning of words. But, M. Marchand's *ideas* were very advanced and his personality was most inspiring. In fact, it was M. Marchand and M. Dupré, a teacher of English in the *Lycée Montaigne*, who had the most constructive influence upon me. Unfortunately I did not meet M. Gourio, whose English texts are used pretty generally in Paris. The French consider M. Gourio an even more potent exponent of the Direct Method than Herr Max Walter of Frankfurt. The fact is that in France, the use of the Direct Method is imposed by ministerial decree, while in Germany, it is only optional. I have been able, nevertheless, to get M. Gourio's point of view by using his little text in our school. One of his strongest points is his constant use of the sentence as opposed to the single word.

From Paris, I went to Marburg, where they were using a "Französisches Elementarbuch" by Köhn and Diehl. The vocabulary of this book, though eminently practical, admits of no logical development, no *enchainement*. Sub-

sequently I went to Frankfurt, to the Musterschule, of which Herr Max Walter is the head. The dominant note in the teaching at this school was *action*, which is the most striking characteristic of Herr Walter's personality. Hence word meanings were conveyed mostly by action, though drawings and pictures were used as well. Of course there was *some* relation between the words, but I failed to find an *enchaînement* so systematic that the entire body of words learned would form one organic whole. It should be added, however, that the six year course, as carried out in the Musterschule, removes the imperative necessity for such rigorous progression of the vocabulary.

I returned in the fall of 1913, bringing, among other things, a pamphlet called "Méthodologie" by Schweitzer, and also a text for the teaching of French by Schweitzer and Simmonot (the latter of whom I saw teach at the Collège Chaptal). The pamphlet is the most inspiring and practical thing I have ever read on the question of the acquisition of vocabulary. It contains many helpful suggestions and develops admirably the interpretative resources of the Direct Method, especially as to effective classroom use of the principle of *mental evocation* of the object or idea. The devices suggested, though not exhaustive, are very clever and practical. Yet, the classroom text of Mm. Schweitzer and Simmonot, which one would naturally assume to be the practical application of these excellent principles, was in no way illustrative of their theories. It was altogether lacking in logical development of vocabulary and failed to stand the test of the classroom. I do, however, want to acknowledge at this time, a great debt of gratitude to the writings of M. Marchand and Mm. Schweitzer, as well as to the classroom technique of M. Dupre, for it was under their guidance that I started to experiment with the Direct Method, in an endeavor to make a *practical, concrete* application of its principles and theories.

It is indeed important to know how to teach vocabulary, but obviously we must determine *what* vocabulary we are going to teach before we can attempt to answer the question of *how*. All Direct Methodists agree that, at first, the vocabulary must be concrete, near the experience of the pupil, and capable of demonstration by means of objects and action. Yet it seems to me that it would be the part of common sense to choose the words in accordance with the needs of the student, not only in the classroom but also in his daily life. When a business man selects a location for his store, he selects the locality which the greatest number of people frequent; when a person buys a suit, he picks one which will give him the greatest service; and so it should be with the selection of words. The test of need and service should be applied to every word presented. In this way, we would escape such choice bits as: "There are many owls on my grandfather's farm," and "The corals and enamels of the girls are beautiful." Furthermore, there is an almost immediate need for the vocabulary which the teacher is to use in directing the classroom work or in giving simple explanations of grammar and pronunciation. In a word, the vocabulary used by the teacher should be included in that studied by the pupil, and we should avoid the anomalous situation of talking about French facts in English. *Finally*, the verb is undoubtedly the most important of all vocables, because it is the backbone of the sentence, makes the greatest impression on the pupil, and is absolutely essential to the expression of any complete thought.

Having considered roughly the contributions of some important thinkers on this subject, and with the principles which are to guide us in the choice of the vocabulary before us, I shall now proceed directly to the consideration of the question of the best method of teaching this vocabulary without resorting to the use of English.

I believe that the most satisfactory solution of this problem is to be found in the application of logical processes in the demonstration of the meaning of new words in the same way as these processes are applied in the demonstration of a theorem in geometry. To prove a theorem in geometry one starts from the hypothesis and proves the theorem by means of construction, previous propositions, equation, axiom, etc. Then the theorem just proved is used almost

immediately to demonstrate the following one. Thus we have a definite procedure: each theorem has a definite place and is constantly used in the subsequent work, making a logical progression, which gives a closely knit, well-coordinated body of material. What mathematician would dream of proving a theorem in lines, then one on similar triangles, and then one on circles; yet our American-made French texts do just this thing as regards new words. Is it any wonder that our pupils do not remember words, when they are isolated and detached vocabularies having no logical connection with anything which had preceded nor with anything which is to come? Most introductory French texts group together "J'ai faim", "j'ai soif", "j'ai chaud", "j'ai froid", "j'ai peur", "j'ai besoin" merely because they resemble each other as to form. This grouping may be justified by grammatical considerations and may appeal to grammarians. For this very reason, however, they mean little in the life of the student, who is more attracted by the thought content. There is no logical sense connection between the expressions included within this group, nor, in turn, between any of them and what has preceded, or what is to follow. *It is my conviction* that just as in geometry, so in language study, each new word should have a very definite relation to those which have preceded, and likewise should be a stepping-stone to those which are to follow. Let me continue to develop my analogy to geometric methods by an enumeration of what may be considered the linguistic counterparts of the geometric axiom, postulate, construction, etc., i. e., a fixed list of processes which are to be consistently employed in the demonstration of the meanings of new words.

Obviously the simplest methods for the demonstration of a new word are:

First: by showing the *object* to the pupil. Such things as fruits, clothing, parts of the body, objects in the classroom, etc.

Second: in lieu of the object, a *picture* may be shown: for example, a map of Europe, or a picture of a book.

Third: a question as to the *utility of an object* will easily indicate a verb. "Qu'est-ce que vous faites avec la tête?—Je pense avec la tête." "Qu'est-ce que vous faites avec les oreilles? J'entends avec les oreilles."

Fourth: *gestures* are readily understood by the student. By this I mean some gesticulation by the teacher which will either imitate the action or produce the mental evocation of the action or idea. For instance "voilà un fusil; moi, j'ai peur." (gesture) Or, "je joue au tennis" (gesture).

Fifth: *action*. By this I mean the actual performing of a complete action before the student, such as "Je ferme la fenêtre."

Sixth: the *purpose of an action*. "Pourquoi étudiez-vous?—Pour apprendre." "Pourquoi écoutez-vous?—Pour entendre." "Pourquoi cherchez-vous quelque chose?—Pour le trouver."

Seventh: *logical sequence to an action*: "J'ouvre la porte. J'entre dans la maison." or, "Je me lève; je m'habille."

Eighth: *example*: "Chicago est une ville, Paris est une ville." "La France est un pays. L'Italie est un pays. *Ce sont des pays.*"

Ninth: the *Reason for going to a place*, as, "Je vais au garage pour chercher l'auto." "Nous allons au magasin pour acheter."

Tenth: *contraries*: "Le contraire du verbe acheter est vendre." "Le contraire de laborieux est paresseux." "Le contraire d'aller est venir." "Le contraire de la préposition avec est sans." "Le contraire de j'ai raison est j'ai tort."

Eleventh: *definition*. "Assez signifie une quantité suffisante; beaucoup signifie une grande quantité." "souvent signifie beaucoup de fois; faire voir signifie montrer; j'ai raison signifie ce que je dis est vrai et exact."

Twelfth: *similarity to English*, as "décider, passer, une quantité, un train, une nation."

Thirteenth: *synonym*. "parler et causer;" "très et bien;" "brave et courageux;" "se dépêcher et se hâter;" "vite et rapidement;" "se mettre à et commencer."

Fourteenth: logical connection of cause and effect or condition. For instance, "Il reste chez lui—Il est malade." "Il reste chez lui *parce qu'il* est malade."

Fifteenth: proper time or place for an action. "Qu'est-ce que vous faites la nuit? Je dors." "Qu'est-ce que vous faites à midi? Je déjeune à midi."

Sixteenth: characterization of an object. "Cette boîte-ci est petite, cette boîte-la est grande." "Les tableaux au Louvre sont beaux."

Seventeenth: numerical processes, such as multiplication, substitution, etc. "Soixante minutes font une heure." "Vingt-quatre heures font un jour."

Eighteenth: situation. "Quand on dit *merci*, je dois répondre *il n'y a pas de quoi*." "Quand je rencontre une dame, je dois ôter mon chapeau."

Nineteenth: manner in which an action happens. "Je marchais vers l'école quand tout à coup, j'ai entendu une explosion terrible."

Twentieth: grammatical relation.

Verb to noun { ressembler
 ressemblance

Adjective to noun { bon, curieux
 bonté, curiosité.

Adjective to adverb { lent, lentement
 ordinaire, ordinairement

Noun to verb { un voyage, une visite
 voyager, visiter

Twenty-first: context. a. *revenir*. Le Maître: Vous êtes en retard. Je ne peux pas vous permettre de rester. Vous devez aller chercher une excuse au bureau.

Les élèves: Nous irons au bureau et nous *reviendrons* tout de suite.
b. *oublier*

Un élève: Monsieur, j'ai appris cela hier, je le savais, mais je ne peux pas vous répondre aujourd'hui, parce que je l'ai *oublié*. L'idée m'est complètement sortie de la tête.

Here we have twenty-one very different processes or devices by which the meanings of new words may be rendered clear to the student.

We are now in possession of a perfectly definite mode of procedure for the demonstration of the meaning of new words. Let us observe, then, the actual operation of these principles when applied to concrete cases. The first concrete example will consist of the classroom demonstration of four new words or expression.

Imaginez-vous que c'est le matin. Votre père quitte la maison. Où va-t-il? Au cinéma? Certainement non. Il va à son bureau qui est en général au centre de la ville. Pourquoi va-t-il à son bureau? Pour s'amuser? Pour jouer? Non, au contraire, il y va pour *travailler*. Pourquoi travaille-t-il? Il travaille pour gagner de l'argent. Avez-vous bien compris le nouveau verbe? La Classe: Oui, monsieur, j'ai bien compris. Le maître: Ou est-ce que votre père va pour travailler?

Un élève: Il va à son bureau.

Le maître: Pourquoi y va-t-il?

Un élève: Il y va pour travailler.

Le M.: Quel est le contraire de travailler?

Un él.: C'est "jouer" monsieur.

Le M.: Pourquoi travaille-t-il à son bureau?

Un él.: Pour gagner de l'argent.

Le M.: Alors, votre père travaille à son bureau; votre mère travaille chez elle. Vous travaillez à l'école pour apprendre quelque chose. Moi, j'y travaille aussi. Votre oncle travaille à son bureau. Le directeur de l'école travaille. Le président des Etats-Unis travaille. *Tout le monde* travaille. Comme vous voyez, "tout le monde" signifie "toutes les per-

sonnes." Par exemple, Tout le monde aime l'argent, spécialement les Américains, mais tout le monde n'aime pas travailler pour le gagner. Aimez-vous travailler Charles?"

Chas.: Mais oui, M., j'aime beaucoup travailler.

Le M.: Alors vous êtes un élève *laborieux*, parce que vous aimez travailler. Voilà quatre nouveaux mots. N'oubliez pas que *tout le monde* est obligé de *travailler* pour *gagner* de l'argent, et une personne qui aime travailler est une personne *laborieuse*.

Thus, to establish "travailler," two of the devices already stated were used. "Travailler" came as the opposite of "jouer", as well as the reason why the father went to the office. Then "gagner" came as the purpose of "travailler". "Tout le monde" was demonstrated by the principles of example, context, and definition, while "laborieux" was reached through definition.

Let us now take up the group mentioned before, consisting of "J'ai besoin, j'ai froid, etc." To arrive at "j'ai besoin", it would seem more logical to start early in the course with "Il est nécessaire de". After a couple of weeks of practice, "il faut" can be easily substituted. When facility with "il faut" has been acquired by constant application with simple rules of grammar, as "il faut ajouter un's' pour former le pluriel", then "il me faut" can be derived by the addition of "me" in sentences like "Il me faut de la craie"; "M., il me faut du sucre pour mon café"; "il me faut un crayon pour écrire." When "il me faut" is well established, it is perfectly safe to give "j'ai besoin" by definition and equation: 3 (il me faut)=j'ai besoin de. Make the substitution in the sentence, "J'ai besoin d'argent pour acheter un nouveau chapeau", or, "Il fait froid aujourd'hui. Charles, vous avez besoin de votre pardessus." The equation 3 (il me faut)=j'ai besoin de represents very definitely the relative force of these two expressions as used by the French. This progression can be terminated by "devoir", which clearly has a logical relation with "J'ai besoin de" and "il faut."

Just one more simple progression will further clarify this point.

Imaginez-vous une demoiselle en route pour l'école. Il n'y a personne avec elle. Donc, elle est *seule*. The new word is "seule"; the devices used were definition and context. "Seule" will give the adverb "seulement" by grammatical relation. J'ai reçu seulement 45 sur ma composition. "Seulement" will lead to "ne—que" by definition. By substitution in the example just cited, we have, "Je n'ai reçu que 45 sur ma composition." It must be perfectly clear from the two progressions, starting with "il est nécessaire de" and "seul", respectively, that each word is established or proved by definite means, and has a logical connection with what has preceded or is to follow immediately. To clinch the matter, each word appears in a sentence which bears a definite relation to some personal interest of the student.

Continuing the group from which I have digressed slightly, how shall we handle "J'ai faim"? Here is the proper situation. C'est le matin. Je me lève, je m'habille, je descends à la salle à manger. Je désire manger. Pourquoi est-ce que je désire manger? Parce que *j'ai faim*. The devices employed were: 1. the reason for an action, 2. the situation, and 3. logical connection.

Perhaps it would be of interest to know at just what point "je suis" was introduced. Here is the scene. Il est dix heures du soir. J'ai étudié longtemps. Je cesse d'étudier et je vais à ma chambre à coucher. Je vais me coucher. Pourquoi? Parce que *je suis fatigué*. The devices were: 1. situation, 2. logical relation, 3. similarity to English, 4. gesture.

Furthermore, "je me rappelle", at first thought, seems impossible. But when "oublier" has been well fixed and used for a period of ten days, "je me rappelle" comes very easily as the contrary, especially when accompanied by the appropriate gesture, and when applied to the proper situation.

Another interesting series is the one that starts with the numbers and is developed according to the principle of numerical processes. From the numbers, we can learn time by using a dial. Having taught the pupil to tell time, we can establish the divisions of the day: le matin, midi, l'après-midi, le soir, la nuit.

Then the appropriate activities of the student for the various divisions of the day fit in very easily. From the hours, we can derive a day, and from the day, the days of the week. The days of the week give us "aujourd'hui, hier, and demain. Definition will also give "aujourd'hui" as "ce jour-ci"; "demain"="le jour après aujourd'hui", and "hier"="le jour avant aujourd'hui." The series "hier", "aujourd'hui", "demain", are the hypothesis on which we can establish tense relations. For example: "Avez-vous préparé votre leçon hier soir?" "Je vous rendrai vos devoirs demain". To continue, days of the week will give us months, and "douze mois font une année; trois mois font une saison; quatre saisons font une année. Les trois mois décembre, janvier, février font une saison. Cette saison s'appelle l'hiver. Quel temps fait-il en hiver? Il fait froid (geste). Quand il fait froid j'ai besoin d'un pardessus. Si je sors en hiver sans mettre mon pardessus, j'ai froid (geste). Le contraire de l'hiver est l'été. Quel temps fait-il en été? Il fait chaud (geste) qui est le contraire de l'adjectif froid."

To end the list of practical applications, it seems proper to present a connected passage. The following story fits in just after breakfast when the student is getting ready to go to school.

L'HISTOIRE DU CHAPEAU PERDU

Je finis de déjeuner et je sors de table. Je tire ma montre de ma poche et je la regarde. Il est temps de partir pour l'école. Je vais à l'entrée chercher mon pardessus, mon chapeau, mes gants, et mes livres. Je trouve toutes mes *affaires* excepté mon chapeau. Je vais à ma chambre à coucher. Je le cherche sur ma table. Il n'est pas là. Je le cherche sous mon lit. Il n'est pas là. Je le cherche dans mon *placard*. Il n'est pas là *non plus*. Je le cherche *partout* dans ma chambre. Mais *j'ai beau chercher*. Je ne peux pas le trouver. Que faire? Evidemment il me faut mon chapeau pour aller à l'école. Je vais voir ma mère. Je lui demande, "Avez-vous *vu* mon chapeau?" Elle me répond, "Je regrette, mais, je ne l'ai pas *vu*. Qu l'avez-vous cherché? Je lui réponds, "Je l'ai cherché partout dans l'entrée et dans ma chambre." Elle me dit, "Adressez-vous à la *cuisinière*, Annette, parce que tout de suite après votre *retour* de l'école hier après-midi, vous avez mangé un *gâteau* dans la cuisine. Je vais trouver Annette, la *cuisinière*. Je lui demande aussi, "Avez-vous *vu* mon chapeau?" Elle *rit* de moi parce que j'ai demandé la même chose hier matin, et elle me répond, "Regardez un peu sur le *piano* dans le *salon*. Je pense l'avoir vu là ce matin de *bonne heure*."

Je remercie Annette. Je vais au *salon* chercher mon chapeau, et *en effet*, le voilà sur le piano derrière quelques *morceaux de musique* exactement où Annette a dit de chercher. A ce moment, ma mère arrive et elle me demande si j'ai un *mouchoir propre*. Je regarde dans ma poche et je trouve je n'ai de *mouchoir*. Alors je vais dans ma chambre chercher un mouchoir, dans mon *tiroir*. Enfin, j'ai trouvé toutes mes affaires et je suis *prêt* à partir pour l'école.

Je dis "Au revoir" à ma mère et à mon père. Avant de sortir, je mets mon manteau et mon chapeau. Mon père me dit de bien *boutonner* mon manteau, parce qu'il a regardé le thermomètre qui marque zéro; quand le thermomètre marque zéro; il *fait froid*. Mais, naturellement, mon père a *beau me dire* de *boutonner* mon pardessus. Je ne fais pas ce qu'il me dit de faire. Je pars pour l'école sans le *boutonner* ni mettre *mes gants*. Je sors de la maison et j'arrive dans la rue.

Of course all the the material presented in this paper seems rather disconnected. Obviously it is impossible to present the entire vocabulary of the first year. Consequently I have been obliged to select the most representative and typical illustrations. The unifying element is the fact that the life of the pupil, from the moment he awakes in the morning to the time he retires at night,

forms the background for the systematic development and logical connection of all the words studied.

Having clearly before us the concrete details of this theory, we may properly inquire why it is more effective. In the first place, since the vocabulary which the teacher can use coincides with that learned by the pupil, there is a constant absorption and assimilation in the very operation of conducting the class. Again, since each new word appears in terms of those already learned, there is continual review and accumulation which is bound to result in power and accuracy. Finally, by the application of the reasoning processes, we make the same appeal to the logical faculties as does the study of mathematics. We develop not only the memory and the perceptive powers, but also the reason. In this way we can increase the mental disciplinary value of Modern Language Study.

Use dictation through the whole course, then have the dictation read back again. Give more attention to oral work. Concentrate on phonetic drill and on dictation. The paper follows.

Oral Instruction in First Year French

The reaction against the study of German, incident to our part in the Great War, has not been altogether salutary in its effects. Statistics compiled by Professor Coleman of the University of Chicago demonstrate that no inconsiderable proportion of the former registration in German is being lost to modern languages altogether and is going to such subjects as carpentry and bookkeeping. Furthermore, in many places, where French has been introduced to supplant German, careful observers have found that it has not held its own. Sometimes it is Latin, sometimes Spanish, sometimes even German itself which has shown a tendency to gain at the expense of French.

The reason for this phenomenon is not far to seek. By a curious paradox, it may fairly be said that the public interest in the French language, which started with the landing of brothers and sweethearts on French soil, and was fostered by correspondence with thousands of French orphans, was responsible to a great extent for a rapid deterioration in the quality of French instruction. On all hands we find physical education instructors who have had one year of French, home economics teachers who have had one semester of French, being impressed into service to take classes of beginners desiring to learn the tongue of Molière. Small wonder that the publishers of one very successful grammar advertise that they come down to the level of the teacher. Small wonder, also, that the disgusted public turns now and then to standard subjects like Latin, or even bookkeeping, in order that the time of the children may at least not be wasted.

As I reflect on this situation, I seem to hear the lament of a former student at the University of Illinois who, though ill-qualified, took a position to teach French in an Illinois high school. "What can I do," she complained, "what can I do to interest my students?" Here indeed was a cry from the heart which may be fairly said to epitomize the whole situation. French, despite the war, needs to be made interesting to the beginner.

The first remedy which would suggest itself would be the direct method, because, despite its well-known defects, the direct method has, when properly handled at least the merit of interesting the student. And if ever there was interest in spoken French, it is now. Every returned officer wishes to progress beyond the point where he can merely understand "*Qu'est-ce que cela fait?*" spoken with a French shrug of the shoulders. The American nurse is no longer completely satisfied to say, "*Il est nécessaire aller pour un broom,*" pointing to the broom. The traveling entertainer for the expeditionary forces realizes now that when she used to ask, "*Garçon, il est nécessaire an oeuf not turned over,*"

and made a gesture intended to be the reverse of turning over, she was liable indeed to get an egg turned over, but with a reverse motion. The doughboy would now be interested to learn that the "sharabang" which used to carry him from post to post was in reality a "char à bancs", mentioned in a splendid story by Maupassant. And what shall we say of the psychology of the average high school student, who, though having limited use of his brain, is delighted at a chance to use his mouth? Add to that the well-known advantages of oral work, that it enables the student to learn by the mouth and the ear, as well as by the eye; that only by oral work can there possibly be time enough for the amount of drill necessary for impressing the important grammatical construction on the juvenile mind.

Despite all these considerations, which would lead one to expect a momentous increase in oral instruction in French, the case of the direct method, in particular, has grown rapidly worse, for three main reasons: (1) The inability of the teachers themselves speak French; (2) The nature of the direct method, which was regarded in many quarters as essentially German; (3) The "flu" epidemic, which caused teachers to beware of the sore throat and physical exhaustion necessarily concomitant to the pure direct method.

Thus, instead of the oral work demanded by the public, what have we had? Rules. Rules for the imperfect subjunctive, for example, especially the imperfect subjunctive used in exceptional cases in very high flown literary style. Rules for the agreement of collective nouns with verbs. One Illinois high school teacher, it seems, shrewdly suspected that such material was far above the heads of her students, and asked the brightest pupil in her class, "Give an example of a collective noun." The brightest pupil answered, "A garbage can."

In theory, of course, most teachers—even teachers of collective nouns and of the imperfect subjunctive—have admitted the importance of a decent pronunciation for the student of French. In practice, it has too often happened that only a week, or perhaps, only a day, has been devoted to describing French sounds. This irksome duty grudgingly performed, the class has proceeded to the grammar and translation (and perhaps conversation, Heaven save the mark!) which formed the meat and bone of the course, while such students as entered the class too late to profit by the first and final explanation of the pronunciation were left to shift for themselves. Egregious errors, it is true, have been corrected occasionally by the more conscientious teachers. Some educators have now and then cautioned their students not to confuse "peut-être" with "potato." Other educators have attempted now and then to distinguish between "Je peux" and "Je purr", though many of our leading French teachers have felt that the key-word "purr" was a sufficient description not only of *eu* in *deux* but also of *eu* in *heure*. Still other educators have made frantic efforts to eradicate such errors as "je avais" and "le ammy" and "li homie" by calling attention to the fact that apostrophes are not pronounced even in English; that we say "I don't", not "I doughnut."

Such is the situation. What is the remedy?

In the first place, let us heed the advice given by Professor C. H. Grandgent some 20 years ago, that whatever one's disability in speaking French may be, he is not justified in practising on his students. Let him practise instead on any good-natured French speaking person whom he may meet, and not be ashamed of his errors. It should be remembered that every error corrected is a gain.

In addition, emphasis should be laid upon two things in the conduct of the recitation: (1) simple phonetics; (2) memorizing and dictation.

(1) To discuss first phonetics. One of the greatest obstacles in the teaching of phonetics is the question of text-books. Most progressive teachers of French concede that one month—some say three months—should be devoted at the beginning of the high school course to little else than the teaching of French sounds. An unpublished report of the N. E. A. Modern Language Committee for 1918 recommends that no text-book be used for the first three

months. Many teachers—especially those who have had experience teaching in army camps—favor a syllabus to take the place of the conventional text-book, for the first month at least. All this is very well for the exceptional teacher, who can perhaps handle a class for an indefinite period with no text-book at all. What shall we do for the great body of average teachers, in the habit of calling out to the class at the end of the hour, amid the scuffle of finding pencils and books and wraps, "Take the next lesson for to-morrow?" For such teachers, it is evident that a different sort of text-book is needed, if our program of phonetic reform is to have any very wide application. Most elementary grammars unfortunately introduce new sounds indiscriminately, making systematic treatment of the pronunciation impossible for the teacher who follows the order prescribed.

Another difficulty is that the descriptions of sounds found in most text-books is either sadly inaccurate, or else entirely too technical for students and for most teachers. Such terms as wide, narrow, checked, unchecked, digraph, trigraph, occlusion, fronting, protrusion and tense rounding of the lips, fricative, velum, glottis, gingival, pre-palatal, spirant and aspirant, and even close and open, are little understood by the laity, especially by the thirteen and fourteen year old laity. We need to return to something like simple descriptions of sounds introduced by Professor Grandgent in his *Short French Grammar* in the early 90's. In addition, instead of elaborate descriptions let us have pictures of the lips, teeth and tongue in action; let the student imitate the faces which the Frenchman makes, rather than attempt to analyze his digraphs and occlusions. A move in this direction has already been made by Mlle. Alice Blum, a "graduate of the University of Paris", who reinforces the text of her grammar with elaborate illustrations, and resorts to such explanations as these: Squeak for (i); pout for (u); whistle for (y); hollow the cheeks for (ç); stretch the jaw to the utmost for (wa).

Simple directions of this sort should be used more extensively, hammered home by that vast amount of repetition necessary, as our Jesuit friends well understand, to elementary teaching. As the New Jersey Committee on Modern Languages expressed it, "The Teacher must be as tireless in correcting mistakes as the student is in making them." So, let us insist—seven times seventy times—that the tongue must not be raised in pronouncing nasals; that the tongue be held against the lower teeth to pronounce (a); that to pronounce the difficult sound of *gn* in *montagne*, the tip of the tongue be held firmly against the lower teeth; that to produce the French (1), which most Americans pronounce as a semi-vowel, the tongue must be held firmly against the base of the upper teeth.

Daily exercises in pronunciation should form a part of each day's drill for several months. Practice singing (i), then stopping suddenly, to avoid the drawling effect of English vowels; then sing (li), stopping suddenly. Likewise for (e), followed by (de), etc. Then (i), (y); (di), (dy); (e), (-de), (d), etc. When such exercises become part of the student's daily life, we may feel that we have made progress.

(2) We may supplement these formal exercises in pronunciation by riddles, anecdotes, rhymes, etc., indicating the pronunciation of difficult words by the phonetic script. To overcome the natural bashfulness of many of the students, chorus work should be used to a limited extent, the syllables being pronounced slowly, as if the student were counting them. As Professor Barry Cerf well says in effect, fluency is the greatest foe to good pronunciation in the first year's work in French. Following the chorus work, individual recitations should be called for, the student always counting—as it were—his syllables. At the next recitation, the class should be required to repeat from memory the material thus prepared. Simple songs will be found invaluable also for making the student feel the rhythm of the French language—a much neglected subject—as well as for relieving the embarrassment of the self-conscious student.

The possibilities of dictation as a means of training the ear of the student have been underestimated, in my opinion. Suppose that we assign each day a few paragraphs of easy French to be practically memorized. Then we may either let the student translate at hearing, or have him take a written dictation. Thus the usual straining incident to making the student understand even the simplest questions in French will be avoided, and at the same time the student will receive valuable phonetic drill.

The value of dictation, indeed, remains undiminished throughout the college course. Let us take, for example, the eternal problem of teaching literary history, that bugbear of so many full professors. Lectures delivered in English are apt to prove soporific. Lectures delivered in French are apt to prove too difficult, and result in the shedding of tears, and multitudinous visits to the registrar's office for blanks for dropping courses. On the other hand, dictations in French are another matter. The student's interest is at once aroused by the use of the French. His grasp of the subject is effectively checked up when he is asked to read back what the professor has dictated to him.

To sum up: It is imperative that more attention be paid to oral work, in order to interest the student, in order to cover properly the grammatical field, and because the student naturally desires to use his mouth in the classroom. As the time is not yet ripe for a general adoption of the direct method, concentration should be made upon (1) simple phonetic drill; (2) memorizing and dictation. In the phonetic drill, it is necessary that the new sounds be introduced gradually, and the descriptions of sounds be simple enough for the beginner; (2) memorizing and dictation will give enough additional material to the inexperienced teacher to enable him to meet ordinary class-room needs, without resorting to a lamentable attempt at "conversation."

In reply to questions asked, Mr. Bovee stated that pupils who do the work he outlined are 12 to 16 years old. His text consists of mimeograph sheets. He uses a reader about the middle of the first year. The course is a four years course. Mr. Bovee stated that in the first year the active vocabulary was from 1,000 words to 1,200 words. Total vocabulary, under 2,000 words. In the second year Mr. Bovee uses texts for rapid reading and texts for intensive reading. No translation in second year. Translation comes in third year.

In discussion it was suggested by some one to study Max Walter's Frankfurter Reform Plan and Gouin on Series of Actions.

In the absence of Mr. Moore, his paper was read by Professor Van Horne of the University. The subject of this paper was "Oral Instruction in First Year French."

In the reaction against German, French was placed in the schools, but it has not held its place well owing to a lack of interest, because the war is over and because the teachers in many cases were not well trained to teach it. We need training in phonetics, and in pronunciation. We have had rules before this in place of training in the direct method. Grandgent advise not to practice errors on pupils. Use dictation and phonetics. The teacher must be as tireless in correcting mistakes as the pupil is in making them. There should be memorizing of riddles, anecdotes and rhymes. Much concert work should be given. Do not allow too rapid pronunciation.

There was no discussion of this paper.

Miss Olson stated that one member had withdrawn from the committee, and that the present chairman's term had expired. Miss Donneat, of Chicago, was elected to fill the vacancy and Miss Olson was elected to succeed herself as chairman. The President further stated that there was no money to pay expenses for programs but hoped all present would be willing to contribute to the success and interest of the Conference.

The reading of Dr. Van Horne's paper was omitted at his request because of lack of time. This paper is given here:

The Spanish Problem

During the last few years sudden and violent fluctuations in the number of students studying certain foreign languages have been the rule rather than the exception. This paper contains the results of an inquiry into the variation in numbers of students taking Spanish in the secondary schools of Illinois since 1916. In order to secure the proper figures letters were sent to the eighty-three secondary schools of Illinois from which Spanish was one of the subjects that counted for entrance credit to the University of Illinois in the summer of 1919. For convenience and for comparative purposes the inquiry was extended to include French, German and Latin. No attempt was made to secure information about these other languages from schools in which Spanish was not taught. The statistics are, therefore, more complete for Spanish than they are for the other languages.

Replies were received from sixty of the eighty-three institutions to which letters were sent. Information was requested concerning the number of students enrolled in first, second, third and fourth year work during each of the last four years in Spanish, French, German and Latin. Most of the answers are substantially complete; some contain figures only for one or two years or for one or two languages. A few furnish little or no material. Statistics are more complete for the present year than for preceding years, and they are more satisfactory in Spanish than in the other languages. The figures for German are less reliable than those for the other languages, and they are therefore not presented.

The results are as follows:

SPANISH

	1916-1917	1917-1918	1918-1919	1919-1920
First year Classes	1206	1831	2565	3448
Second year Classes	127	369	812	1360
Third year Classes	19	36	93	161
Fourth year Classes.....	10	7	20	32
*Totals	1657	2559	3818	5320

FRENCH

	1916-1917	1917-1918	1918-1919	1919-1920
First year Classes.....	1388	2442	5118	4760
Second year Classes	754	766	1202	2725
Third year Classes	231	322	314	498
Fourth year Classes	73	63	63	88
*Totals	2535	3697	6844	8289

LATIN

	1916-1917	1917-1918	1918-1919	1919-1920
First year Classes.....	3712	4300	4680	5170
Second year Classes	2132	2536	2797	2951
Third year Classes	742	930	1023	1325
Fourth year Classes.....	395	449	500	501
*Totals	8520	8908	9721	10,086

The figures in Spanish show a very great increase in every year of the four year period. In first year Spanish the figure has nearly tripled since 1916; in second year Spanish we find more than ten times as many students as there were three years ago; in third year Spanish there are more than eight times as many; the fourth year work is still almost negligible, although there are signs of growth even here.

In first year Spanish we find an actual increase of 631 students or about 51% in 1917-1918; in 1918-1919 an increase of 734 students or 40%; in 1919-1920, 883 students or 34%*. From these figures it is clear that the rate of growth has diminished every year. However, even the last mentioned rate of increase is heavy. It means that for three years in succession beginning Spanish courses have increased in numbers to an extent that makes very difficult a proper provision for the efficient teaching of the language. It is certainly not to be supposed that a rate of increase so great as 34% will continue indefinitely, but it is hard to predict just when and how conditions will approach stability.

The number of students in the second year class of a language is not so good an index of popularity of the language as is the number of students in the first year class. It is natural for students who have begun a language to continue it. The great increase in first year Spanish leads us to expect a corresponding growth in the work of the following year. And so it is. In 1917-1918 the increase is 242 students or 191%; in 1918-1919, it is 443 students or 120%; in the present year, it is 548 students or 67%. Although the rate of increase has diminished materially, it is still enormous, in fact, nearly double

* These totals include figures listed in some of the replies, which cannot be assigned to first, second, third or fourth year work.

* As the figures in the replies are deficient, if at all, in the earlier years, the absolute and relative increases here as elsewhere, are probably slightly higher than they should be.

the rate of increase in first year work. This especially noticeable extension of second year work is due to the fact that three years ago second year students were very few, and the increment from the crowded first year classes therefore made itself felt with telling effect. This increase of course causes especial difficulty with the teaching side of the problem, because it becomes necessary to secure more and more teachers capable of going beyond elementary work.

In the sixty schools that furnished statistics, there were only 19 pupils in third year Spanish three years ago; this increased to 36 in 1917-1918, to 93 in 1918-1919 and to 161 in 1919-1920. The rate of increase is almost as great as in second year Spanish, and although the total number (161) is still small, the rapid expansion of Spanish in the first and second years may soon make us face in the third year work more knotty problems of pedagogy than any heretofore encountered.

As yet there are not enough students enrolled in fourth year Spanish to justify a prediction that the near future will show a large number of students doing this grade of work. That there will be a substantial increase, is, however, a possibility.

Of the sixty schools that answered the letter of inquiry, fifty presented statistics for two or more years of Spanish; of these fifty schools, twenty-three show a progressive increase in the size of Spanish classes; sixteen show a pretty clear decrease; eleven indicate no great change. This division is somewhat surprising. In view of the total increase in the size of classes, we should expect to find at least half of the schools showing a tendency toward growth. The explanation of the difficulty is that, on the whole, the schools with a big enrollment have witnessed a steady increase in Spanish, while marked decreases have occurred only in some of the smaller institutions. In this way the total result is a decided increase. Where a decrease has taken place, various reasons are assigned in letters of reply; for instance, difficulty of securing a Spanish teacher, the temptation of the present high wages which makes students leave school, and, of course, the competition of French and other languages.

A comparison of the fluctuations in Spanish with those in French discloses some interesting variations. Of course, both languages have shown a very remarkable and abnormal growth. However, they have not grown in exactly the same way. In Spanish we have seen a process of vigorous increase lessening in percentage as one year follows another but still progressing rapidly in first, second and third year classes. In French we start from a more substantial basis. That is to say, there were more French classes than there were Spanish classes in 1916-1917, and before that year the discrepancy was even greater. Thus, in 1916-1917, second year French had more than five times as many students as second year Spanish, and third year French had more students than third year Spanish has now.*

In 1917-1918 first year French increased about 76%; in 1918-1919 nearly 110% on top of the remarkable increase of the preceding year; in 1919-1920, we find a decrease of about 7%. Thus we have a series of very violent fluctuations which form a striking contrast to the more orderly development of Spanish. Moreover, these startling changes give rise to formidable pedagogical problems. Even though war conditions go far to explain the phenomena noticed in French classes, it is hard to meet a situation in which one year witnesses an increase of 110% and the following year a decrease of 7% in beginning classes.

* It must be remembered also that this computation includes only schools that teach Spanish, and therefore omits some that teach French.

Second year French had 754 students in 1916-1917; in the following year the number was almost the same; in 1918-1919, there was a sharp increase* of 57%, and in 1919-1920 a still more striking increment of 126%. Third year French has shown a growth, while progress in fourth year French has been slow. It is interesting to note that fourth year work in both French and Spanish is decidedly undeveloped as compared with Latin classes, or with German classes of a few years ago.

Comparison with Latin brings out the contrast between a new, unfixed subject and a well-established, normal study. Classes in first, second, third and fourth year Latin show small, steady increases which must correspond fairly closely to the increased enrollment in the schools.*** We notice also a good balance established between first and second, between second and third, and between third and fourth year work.

What conclusions regarding Spanish are to be drawn from these statistics? In the first place they demonstrate what everybody would expect, that we are not in a position even approaching stability. Until we do reach such a position, pedagogical difficulties are going to be particularly formidable. Teaching problems are hard enough even without serious uncertainty that prevails regarding the relative popularity of Spanish twelve or twenty four months hence.

As long as the classes fluctuate so widely, and perhaps even after they become more stable, we should have channels whereby figures such as these could become accessible to all who must face the problem of teaching language classes or of securing or supplying language teachers. The statistics here presented are far from being complete especially for languages other than Spanish. A really exhaustive set of figures available and easily accessible every year might help to clarify matters now necessarily obscure, particularly so far as the training of teachers is concerned.

A review of the situation disclosed by the information from sixty schools is as follows. In 1916 Spanish classes in Illinois schools were very small, although the first year classes showed strong signs of growth. Since that time there has been a great absolute and relative increase in first and second year work, a decided growth in third year work, and just a little more than stagnation in fourth year work. There is nothing to indicate that a period of stability has begun or that it is about to begin. It can confidently be predicted that eventually the rate of growth will decrease in first, second and third year work, and it is to be hoped that it will increase in fourth year work. However, there is no obvious basis from which to deduce the probable situation next year or the following year. It depends upon special conditions in individual schools, on local or national propaganda for or against certain languages, on whims and on chance, on the supply of teachers, on the relations between Spanish and French, etc.

Serious difficulties in the teaching of Spanish have been encountered during the past few years. Everyone realizes the scarcity of well-trained teachers. Apparently there is nothing in present conditions to lead us to anticipate a sudden relief from the problems of the present and the immediate past. It would be difficult to establish sound teaching methods and to secure good results even if we could predict with confidence the fluctuations of the future. As it is we must proceed with the feeling that conditions next year may be very different from what we expect.

Nothing is much more important than the relations between Spanish and French. We have noticed remarkable oscillations in relative popularity. The relative increase in first year Spanish this year at the expense of French may or may not be repeated next year. Possibly individual institutions can control

* The increases in second and third year work are of course directly traceable to increases during the preceding year in first and second year work.

*** Again it must be remembered that in this paper, only schools that teach Spanish are considered, and therefore many that teach Latin are omitted.

local conditions, but, speaking generally it is impossible to say whether the comparative falling off in French this year is accidental or significant of a permanent tendency. The University of Illinois, like some secondary schools, has shown a much greater increase this year in first year Spanish than in first year French. It is obvious that pedagogically, French and Spanish must go hand in hand, and that many difficulties can be overcome if the same teacher is able to give instruction in both languages.

It is no part of the purpose of this paper to make recommendations leading toward stability in modern language conditions. However, it is realized that agencies are at work that may soon overcome the eccentric variations of the last few years. Such agencies are the special requirements of individual high schools and the work of the interlocking committee on language study. Nevertheless it will hardly be possible altogether to control the tendencies that have sprung out of the war; much must be left to natural evolution and the survival of the fittest, aided or injured perhaps by enthusiastic propagandists.

In conclusion I venture to repeat the one idea in this paper that is not statistical—the one detail which, it is hoped, may be constructive—namely, that we should possess every year scientific statistical knowledge about modern language teaching conditions in Illinois.

The meeting now adjourned.

MISS EDITH DOUGHERTY, *Secretary*.

13. MUSIC SECTION

The Music Section convened at 9 A. M. in 126 University Hall, the Chairman, J. Lawrence Erb of the University, presiding. After the customary announcements, the Chairman welcomed the members of the section in a short address in which he laid stress upon the Conference ideal rather than the Convention, as the guiding principle of the section. The Conference is a "family gathering" in which every member is encouraged to take part to the extent that his experience and needs would justify. Partly as an experiment, but more particularly, because the type of problems clamoring for solution made it seem wise, no set papers have been scheduled nor speakers asked to address the section. The program consists entirely of reports from supervisors, and round-table discussions, with a question-box for good measure. The plan of program for this year will not necessarily be followed in any future year, but it seemed justified for this occasion.

The one thought that the Chairman desired to leave with the members of the section was that public education is for the purpose of preparing students for citizenship,—not only its duties, but its privileges and prerogatives. That, either in material or method, which tends to make better citizens, is worth while, and it is worth while in proportion as it so tends and so long as it so tends. In the last analysis, Music must stand or fall on this basis. It is because we feel sure that Music, both in material and method, makes an important contribution to citizenship that we are so painstakingly engaged in discovering how that contribution may best and most fully be made. As a part of the great work of education upon which the perpetuity of a free popular government depends, Music justly engages our attention, but still more as the most

universal and accessible of the great inspirational and idealizing forces included in the general term, Art, whose great privilege it is to illumine and inspire life.

The Committee on the History of Music submitted as follows its report through its chairman, L. L. Carl of Belleville.

We have been called upon to devise a curriculum in the History of Music. In order to do this work satisfactorily it must be our first step to determine the aim of the subject. This aim should be in keeping with the aim of the whole educational system. Our educational system is based on the theory that the mind of the individual should go through the same evolutionary developments as the whole human race has had to go through, that is to liberate the human mind from all sensual influences, to strengthen it and to give it a feeling of self-reliance. If History of Music is one of the educational subjects to accomplish this aim, it must have the faculty to aid in its way to this end. The teaching of History of Music, like the teaching of the History of the Nations, is intended to broaden the mind of the student, to make him receptive for correlative studies, which by their relation to other fundamentals complete finally the whole circle of the living interests of the human race.

One of the most important factors in the social life of man is music; it surrounds us continuously. Whether it may be offensive or pleasing, we cannot escape it. It accompanies us from the cradle to the grave. It touches the daily routine of everybody's life. For that reason it should be the aim of the public schools and of every educational institution to make people musical literates, to create a thorough knowledge of that subject. The teaching of History of Music will help to accomplish this end. Therein we show how the human race, from the earliest times endeavored to express emotions in a musical form, how music is the most natural means of expressing emotions and therefore must be called the language of the soul. This language can only be understood by those who study it in a systematic way. Ever since music began to make itself noticeable, people have tried to get a deeper understanding of the subject. Ever since educational systems have been worked out, since Plato gave the first intimation of a curriculum, music has been considered a fundamental subject in such curricula. Of course History of Music must be a part of this subject. On it is based the whole theoretical system of music. In History of Music we are able to explain its theoretical and esthetic development, and we are able to show how music could develop to the high standard of today. We receive from it the faculty of appreciation of good performances, and it awakens the desire to hear more of it and to dig into the depth of that great art.

After having stated in a general way the aim of the subject, we must answer the question, how can we accomplish the work? This will be done by the selection and arrangement of subject matter.

The prime object of a High School course is not the training of specialists. In fact, any attempt at correlation with later work in the university or other higher institutions of learning might interfere with accomplishing the very object of such a course, namely, that of equipping the individual with a fund of knowledge of the principles of the study. The lack of appreciation of the subject and of the problems involved in the teaching of students of High School age, causes the teacher, often, to repeat a difficult university course. The student is not able to follow the explanation of the teacher, will lose interest in the subject, and the aim of the study to prepare the young people for more extensive work, later on, is lost at the start. The course in History of Music in a High School must be prepared in such a way that an interest is awakened in the student, which might give him an impetus for more extensive work in that line later. We must remember that the child's mind is very receptive and the result of teaching, if the subject is given in a correct way, is wonderful. Since the young mind is so receptive and imaginative, the subject should be pre-

sented in an animated way. The main points should be illustrated as vividly as possible. An illustration will make an everlasting impression. One way of illustration is by the use of the talking-machine. All phases in the development of Music should be demonstrated by repeated performances of pieces belonging to the different periods.

The work should be accomplished within two semesters, by giving it a daily period of fifty minutes. We must insist upon a daily period because, in order not to lose sight of the connecting points, the same amount of time necessary for History of Music as for any other study in the High School. If a daily period cannot be assigned, it would be preferable to offer a course of Appreciation of Music in place of History of Music. If the material is scheduled for one year, a dividing line between the two semesters could be drawn, at about the time of the Reformation. According to that we suggest the following plan:

I SEMESTER

First Week:

Introductory remarks about music in general, followed by a short survey of the history of ancient music among the five great nations: Egyptians, Hebrews, Assyrians, Greeks and Romans.

Second Week:

Early musical culture among the Arabs and Persians. A wonderfully developed and independent theory; tonal system of 17 steps with intervals of the third, which are considered consonances, is their property. Famous theorists of that period are Chalil (8th Century), Alfarabi (10th Century), Mahámud Shirasi (14th Century), Saffedin (14th Century). Instruments in use are the Lute, Tabor, Kemantche, Arganum (bagpipe).

Third Week:

The Greek system, losing itself in chromatics and enharmonics, is regenerated in the simplified diatonic song of the Greek church of Byzantium. The greatest recognition is due Basilus (died 379) and Athanasius (4th Century). A very artful notation, which demonstrated also rhythm, saved their ritual song from the loss of the rhythm. Johann Damascenus (died 766). A real final development of Byzantine music did not take place.

"Development of the system of the church tones from the old Greek music system."

Fourth to Sixth Weeks:

The antiquated Greek theory finds a thorough Latin regeneration through Boethius (died 524), which has been studied by the monks during the entire Middle Ages. For that reason the whole musical theory of the Middle Ages is draped in Greek theory, but the scale system is different on account of a misunderstanding, which had occurred to the scholars of that time. Ambrosius introduced the antiphone. Gregory revised it. Installation of singing schools by Charlemagne. The oldest notation is the neume notation, but on account of careless copying, the rhythm of the Gregorian Song is disturbed and the sequences are introduced.

Seventh and Eighth Weeks:

Beginning of polyphonic music: Aim for a perfect notation (9th-12th Centuries). In place of the only polyphonic attempt of olden times, to sing in the interval of an octave, we find the accompaniment of a slow church-song by the upper 5th or lower 4th (organum, Diáphong). Huchaldus is the first to describe the organum. He seeks a better notation and uses staff-lines for the first time. At about the same time appears a notation in seven or fifteen letters of the Latin alphabet. Guido D'Arrezzo (1037) united the letter notation and neume notation and in that way be-

comes the founder of the modern notation. He also liberates the tone system from the shackles of rigid diatonic system by means of solmisation.

"The discant and the development of mensural notation."

Ninth, Tenth Weeks:

The Organum has adopted a freer form, the attraction of counter-motion is recognized and accepted as a rule. (Discantus.) The parallel motion in 3rds and 6ths (Fauxbourdon) has been started and the organum gradually sinks into oblivion. A more extensive development of rhythm in the Discant demands some means of showing the duration of the tones and causes the invention of the mensural notes. Excellent masters in writing polyphonic music (often for 4 voices) are Perotinus, Johannes de Garlandia, the two Francos, Petrus de Cruce. Outside of the church also, we are surprised by a new attitude of musical expression (troubadours and minnesingers). Traces of vigorous folk melodies show themselves in the themes of composers during the 13th Century. Instrumental music is augmented by the quick development of stringed instruments, organ and piano-forte. Monuments of instrumental music of that epoch however are not yet discovered.

"High-water-mark of real counterpoint (14th-16th Centuries)."

Eleventh-Twelfth Weeks:

The mensural music is liberated from the unnatural restriction of triple rhythm (12th-13th Centuries) by the introduction of measure values. The facility of various mensural designations leads soon to the affectation of combining various forms of rhythm within simultaneously singing voices. The multifariously developing patterns of that style matured the art of canon-singing.

Thirteenth-Fourteenth Weeks:

Excellent teachers like Walter Odington, Hieronymus de Moravia, Marchettus de Padua, Philipp de Vitry, Johannes de Muris, Simon Funstede, Johannes Hothby, Johannes Tinctoris, Gafori, Petri Aron, Sebald Heyden, Glarean and Zarlino give the doctrine of musical combinations a firmer appearance. A great number of splendid writers in counterpoint creates an amount of composition so extensive that the publications of the 18th-19th centuries cannot compare themselves with the output of that period.

Fifteenth-Seventeenth Weeks:

The invention of the art of printing at about 1450, which was followed by the invention of music type (Petrucchi) aids in the distribution of the compositions and adds considerably to the development of art. The mass, motette, madrigal, the Chanson, the more simple canzonette, Frettole, Villanella, Villote, in Germany: the Liedlein are the forms which are used by the masters. Besides them we find during the 16th Century the form of the Protestant Choral, which has its origin in the German folksong. The Composition is during the whole epoch polyphonic and as a rule written for 4 voices, seldom for 5 voices and is always a capella. Even the dance pieces (Pavane, Gagliards) are composed for voices and are executed by instruments ad libitum only. We find some attempts in real instrumental music (for organ, piano and lute) only at the end of that epoch. The number of instruments has greatly increased during that time: String instruments of various forms and dimensions (Violin, Lute, Theorbe, Guitarre, Chitaroni, etc.), Piano (clavi-cymbal, clavicord), Organ (positive, regal). Gholm, Bombard, Smallflute, Trombone, etc. The most important masters of that epoch are:

Netherlands and France: Zelandia, Binchois, Dufay, Fangues, Busnois, Regis, Okeghem, Henry Isaak, Hobrecht, Brabireau, Bassvron, Josquin de Près, Larue, Brumel, Ghiselm, Orto, Pipelare, Divitis, Lupi, Bauldewijn, Fevin, Carpentras, Monton, Willaert, Rore, Dankerts, Goudimel,

Areadelt, Gombert, Ducis, Clemens non Papa, Clement Jannequin, Philipp de Monte, Verdelot, Hollander, Claude Lejeune, Richafort, *Orlando Lasso*.

Germany: Al. Agricola, Hofhaimer, Henry Fink, Herm. Fink, Theo. Holzer, Stephan Mahu, Paninger, Dietrich, Ludw. Seuff, Jacob Paix, Hasler, Gallus, Geo. Rhaw, Wolf Gresinger.

Spain: Morales, Vittoria, Ramos.

England: Dunstaple, Tye, Tallis, Byrd, John Bull, Morley, Orlando Gibbons, John Dowland.

Italy: The Venetian School founded by Willaert: Merulo, Andrea and Giovanni Gabriele, Orazio Becchi, Porta, Asola, Croce, Donati, Banchieri, Leoni.

Roman School founded by Goudimel: Constanzo Festa, Animuccia, Palestrina, G. M. and G. B. Nanini, Anerio, Suriano, Marenzio.

At this point we should conclude the first semester's work. If we make a division here we may create an opportunity for students to enter the class of History of Music at the second semester without losing sequence of events. The second semester is given over to the teaching of the development of music during modern times.

SECOND SEMESTER

A wonderful change in the treatment of music has taken place about 1600, a strong reaction against the artificial counterpoint and return to the simple form, which bears some relation to the text of the composition, are noticeable. No special consideration had been given to the words, which had been always regarded as of secondary importance. But from now on they receive more attention. The art of counterpoint which denied individuality was the adequate expression of the spirit of the Middle Ages; the reform corresponds with the spirit of the new time. First of all we find for the dramatic song monody with an instrumental accompaniment (*stilo rappresentivo*). From that form originated the opera and oratorio, later the polyphonic song with instrumental accompaniment (concerto, duet, cantata), and the pure instrumental music (Sonata, Suite, Overture, Symphony). At the same time the "a capella" style experiences another revival.

1. The Time of Musical Reform (1600-1700).

First Week:

The endeavor to revive the wonderful effects of ancient Greek music led during the middle of the 16th century (Willaert, de Rore, Vincentino, Venosa) to the chromatic system, i. e., to the heightening of expression regardless of old rules. The musical drama also originated from the flirtation with antique art (Florentine music reformation: Peri, Caccini). Thorough-bass, introduced during the 16th century, is considered the most convenient form of accompaniment of the solo song and is accepted by the Florentines for the opera and by Cavalieri and Viadana for the church-song. The musical drama finds in Monteverde the first ingenious master, who must be considered the father of instrumentation at the same time. The following forms develop simultaneously:

Second and Third Weeks:

Opera: Peri, Caccini, Monteverde, Cavalli, Cesti, Rovetta, Gagliano, Sacrati, Legrenzi, Pallavicini, Draghi, Stradella, A. Scarlatti, H. Schutz, Lully, Purcell.

Fourth Week:

Church music: Roman School (polyphonic choruses and works for two and more choruses a capella); Allegri, Agostini, Cifra, Abbotini, Valentine, Ugolini, Foggia, Benevoli, Mazocchi, Bontempi, Laudi, Pitoni, Baj. Venetian School: Giovanni, Gabrieli, Grandi.

Fifth Week:

Protestant Church music: Michel Praetorius, J. Eccard, H. Schutz, H. Albert, J. H. Schein, J. Kruger, Jac. Praetorius, A. Hammerschmidt, H. Scheidemann, J. Christoph Bach.

Sixth Week:

Organ, Piano music: 16th century: G. Gabrieli, Sweelink, Frescobaldi, Froberger, J. M. Bach, Kerl, Pachelbel, Scheidt, Schein, Scheidmann, Buxtehude, Reinken.

Seventh Week:

Oratorium: Neri, Cavalieri, Kapsberger, Agazzoni, Landi, Mazzochi, Carissimi, A. Scarlatti, H. Schutz, J. Christ Bach.

Cantata and Concerto: Viadana, Agazarri, Carissimi, Cesti, A. Scarlatti.

Chamber duet: A. Steffani, G. M. Clari.

2. The Period of Classics. The representatives of that period are, Bach, Handel, Gluck, Haydn, Mozart, Beethoven. All the forms which have been prepared during the past centuries experience their highest development. New forms of instrumental music are developed.

Eighth Week:

Opera: Neapolitans: Durante, Leo, Feo, Greco, Propora, Pergolesi, Logroscino, L. Vinci, Jomelli, Taradellas, Piccini, Sacchini, Traetta, Paisiello, Cimarosa, Zingarelli, Fioravanti.

Other Italians: Caldara, Perti, Pistocchi, Bononcini, Salieri, Paer, Righini, Sarti, S. Mayr.

France: Desmores, Colosse, Campra, Destouches, Rameau, Philidor, Monsigny, Grétry, Gossec, Le Sueur, Isonard.

Ninth Week:

Germany: In Hamburg (since 1678): Theile, J. W. Frank, Strungk, Kusser, Keiser, Mattheson, Handel, Telemann. Germans in other cities: Hasse, Graun, Naumann, J. A. Hiller, Dittersdorf, Schenk, Weigl, Benda, P. v. Winter, Gluck, Mozart, Beethoven.

Tenth Week:

Oratorio: Handel, Graun, Haydn. Nearly all the Italian opera composers wrote oratorios.

Eleventh Week:

Passion and Church Cantatas: Keiser, Mattheson, Telemann, J. S. Bach, Graun.

Mass, Requiem, etc.: Graun, J. S. Bach, Mozart, Beethoven, Cherubini.

Instrumental Music: Suite, Concerto-Grosso, Sonata, Overture, Symphony, String Quartette, Solo Concerto: Corelli, Torelli, Couperin, Rameau, Tartini, Genuasians, Dom. Scarlatti, Kuhnau, J. S. Bach, Handel, Telemann, K. Ph. Bach, Sammartini, Gossec, Grétry, Haydn, Mozart, Beethoven.

Organ-music, Fugue, Choral figurative Compositions: J. S. Bach, Handel, J. L. Krebs.

Twelfth and Thirteenth Weeks:

The opera develops into a more attractive mellifluous Composition; soon action and realism in expression however take second place and the melody is first consideration. Since the second half of the seventeenth century the song virtuosi (castrat) develop in Italy, and for that reason the operas are written with a view of pleasing the singers. A reaction based upon the principles set up by the founders of the opera was started by Lully (1672), and Gluck (1762); reaction in the direction of dramatic truth is the change to comedy subjects (opera buffa) thru Pergolesi (Cessi), Logroscino, Cimarosa, and etc. The French Opera comique follows soon (1752, Duni, Monsigny, Philidor, Gossec, etc.), also the German

songplay (1767: Hiller, Schlenk, etc.) The opera seria was at that time only an opera after patterns, until the heroic opera sprang up and until national ambitions and spirit influenced music. The oratorio is perfected by Handel, the passion music and the cantata by Bach. Wonderful advances were made in instrumental music especially by the sons of J. S. Bach, also by Haydn. Mozart and Beethoven find the forms perfected and were able to create classical masterpieces in every form.

3. The Modern Time: Romanticism, stronger evidence of subjectivity. Tendency to tone painting. (Program music.)

Fourteenth Week:

Instrumental Music: Schubert, Lachner, Mendelssohn, Schumann, Berlioz, Liszt, Gade, Brahms, Raff, Volkmann, Bruckner, Rubinstein, Rheinberger, Svendsen, Grieg, Rich Strauss.

Fifteenth Week:

Opera: Cherubini, Spontini, Rossini, Donizetti, Weber, Spohr, Marschner, Mehul, Adam, Bellini, Lortzing, Meyerbeer, Wagner, Gounod, Ambroise Thomas, Verdi, Offenbach.

Sixteenth Week:

Chorus music with Orchestra: Schubert, Mendelssohn, Schumann, Gade, Bruch, Brahms, Pet. Benoit.

Seventeenth Week:

The song: Schubert, Mendelssohn, Schumann, Liszt, Franz, Jensen, Rubinstein, Brahms, Hugo Wolf.

Church-music: Mendelssohn (Oratorios), Berlioz (Requiem), Liszt, Kiel, Brahms.

Eighteenth Week:

Piano Music: Weber, Schubert, Mendelssohn, Schumann, Liszt, Chopin, Brahms, Heller, Kirchner, Volkmann, Rubinstein, Reinecke, Saint Saëns, Tschaikowski, Grieg.

The work of purification of the dramatic music style, undertaken in the first period of the new music by the founders of this style (Caccini) and again in the 17th century by Lully, also very successfully by Gluck (18th century), found a very energetic and ingenious representative in Wagner, during the latest period. The youthful German song adds substantially to the deepening and broadening of the expressional power in music. Instrumental music works up to still freer forms, which no longer tie down the wings of fantasie. Church music develops hand in hand with the opera and concert music. In place of naïve faith and satisfied confidence, we find after the period of great superficiality a passionate search for salvation the characteristic of that time.

In presenting this syllabus to the conference, we do not intend to have it considered a standard pattern of the work to be given in History of Music. It is simply an attempt to show how the material could be presented within two semesters by assigning a daily period of 45 or 50 minutes to the subject.

A good textbook should be the basis of the class instruction. There are a number of excellent books on History of Music on the market. We can recommend: Pratt W. S. (Schirmer), History of Music; Balzell, W. J. (Presser), History of Music, and Crowest, F. C. (Appleton & Co.), The Story of the Art of Music.

A textbook with many illustrations throughout the text is the most useful, because it keeps the student's mind interested in the subject. It gives a clearer view and makes an everlasting impression; it renders the work easier for teacher and pupil. The textbook is supposed to be a guide and support for the pupil. The teacher however should not be the servant of the ideas of the author. He should branch out and let his individuality govern the classwork. He must be always careful not to get into a rut by depending too much upon the textbook. He should take advantage of every opportunity to connect the matter with other subjects. That arouses greater interest. Especially one should not pass up the

synchronal events in the development of the nations. The spirit of the ages is very plainly expressed in contemporaneous compositions. Very important from an esthetic standpoint is also the observation of the continuous struggle between materialism and idéalism. This strife has influenced the development of music in such a way, that it must not be overlooked. In order to have a complete view of the matter, it is necessary to touch all phases of the subject. Only by an exhaustive study of the material will we be able to realize the results of the teaching.

In the discussion which followed the report, exception was taken to the text-books mentioned on the score of their highly-concentrated material. Since, however, it is the teacher's business to translate the text into the vernacular of the class and to present it in a manner to make it comprehensible, the objection was withdrawn for the reason that there are not available at the present any History of Music texts that have been prepared primarily for the serious study of the subject in the *High School*. The value of the correlation, suggested in the report, was further emphasized, and the advantage pointed out of occasional *joint* sessions of the History of Music classes with other classes, especially in History. It was also suggested that the History of Music courses be popularized by an explanation of their purpose at an assembly.

The report of the Committee on Graded Materials for High School Chorus and Orchestra was presented by the Chairman. Preliminary to the report, Miss Bear explained that because of the great amount of ground that the committee was supposed to cover, it had been decided that the best results could be obtained by an intensive study of the Chorus this year and of the Orchestra next, rather than by an attempt to do justice to both. It was explained also that the suggestions given in the report were not in any sense exhaustive, but simply suggestive, made up of material which had been found useful in the class-room and therefore representing the practical rather than the theoretical standpoint.

The report, made by Miss Louise Bear, Decatur, as chairman of the committee, was presented as follows:

Publishers of Music Material for Schools

	Abbrev.
Silver, Burdett & Co., Chicago, Boston.....	S. B.
C. C. Birchard & Co., Boston.....	C. C. B.
Oliver Ditson Co., Boston, New York.....	O. D.
Ginn & Co., Chicago, New York.....	G.
Willis Music Co., Cincinnati.....	W. M. C.
Allyn & Bacon, New York, Chicago.....	A. B.

Freshman and Sophomore Song-Books

Laurel Music Reader	C. C. B.
School Songs—McConathy	C. C. B.
Standard Folk Songs—Baldwin & Newton.....	G.
55 Community Songs	C. C. B.

Junior and Senior

Song-Books—

High School Songs—Callinan	A. B.
Laurel Songs (for girls)—Armitage	C. C. B.
Standard Songs, No. 5—Oratorio Choruses	C. C. B.
Standard Songs, No. 6—Opera Choruses.....	C. C. B.
Familiar Song Classics	G.

Choruses—

The Evening Wind—Saint-Saëns	S. B.
Night Hymn at Sea—Thomas	S. B.
Miller's Wooing—Faning	O. D.
Daybreak—Faning	O. D.
Song of the Vikings—Faning	O. D.
My Love's Like a Red Rose—Garrett	C. C. B.
Almond Blossoms—Pestalozza	O. D.
Carmena—Wilson	C. C. B.
June—Mrs. H. H. A. Beach.....	C. C. B.
Recessional—Henry Holden Huss	C. C. B.
America, the Beautiful—Miessner	C. C. B.
Columbia Our Motherland	S. B.
Spirit of Heroes—Steiner	S. B.
Our Glorious Land—Van der Stucken.....	O. D.
Sun Worshippers—Loomis	
Lullaby—Brahms	C. C. B.
Who Is Sylvia—Schubert	C. C. B.
Erl King—Schubert	C. C. B.

Sacred—

Gloria—12th Mass—Mozart	W. M. C.
Gloria in Excelsis—Farmer	W. M. C.
He Watching Over Israel (Elijah)—Mendelssohn	S. B.
Send Out Thy Light—Gounod	C. C. B.
The Lord Is Great—Mendelssohn	S. B.
The Heavens Are Telling (Creation)—Haydn	C. C. B.
Inflammatus (Stabat Mater)—Rossini	C. C. B.
Unfold Ye Portals (Redemption)—Gounod	G.
How Lovely Are the Messengers (St. Paul)—Mendelssohn	W. M. C.
Lovely Appear (Redemption)—Gounod	C. C. B.

Opera Choruses—

Pilgrims' Chorus (Tannhauser)—Wagner	S. B.
Soldiers' Chorus (Faust)—Gounod	S. B.
Waltz Song (Faust)—Gounod	S. B.
Hail, Bright Abode (Tannhauser)—Wagner	C. C. B.

Christmas Music

Old Christmas Carols—Traditional Melodies—By Archer Gibson (Two Sets)	G. S.
Christmas Carols—Stanhope Edition.....	Smith-White Pub. Co.

Cantatas—

The Adoration—George B. Nevin.....	O. D.
The Hope of the World—P. A. Schneckner.....	O. D.
The Message of the Angels—Wm. Reed.....	O. D.
The Story of Bethlehem—Spence	O. D.

This discussion brought out the suggestion that the best results were usually obtained by rehearsing in small sections,—in distinction from the assemblies and classes where all took part together. The first aim of choral training was to be accuracy in response,—team work.

The names of Novello, Ewer and Co., London, and their American representatives, the H. W. Gray Co., New York, were added to the list of publishers. The report of the Committee on Musical Appreciation was presented as follows by the chairman, Mabel Glenn, Bloomington:

For several years I have been presenting this annual report with my impressions of the methods employed in our high schools in the teaching of musical appreciation. From time to time, I have ventured to express my opinion as to how the subject should be taught. In reading over former reports, I was amused at the evolution in my own ideas. Two years ago, I gave quite a detailed curriculum, taking up music in the order of its development, spending considerable time on ancient music and having very little time left for modern music. We followed this outline in Bloomington for one year and this is what we discovered: That in spending much time on ancient music, we wore out the interest of the pupils before they had arrived at really interesting music. We were spending most of our energy on music before the time of Bach while most real music came after his time. Evidently there was a shadow of a doubt in my mind as to the wisdom of my plan of two years ago, for then I hesitated in giving pupils who had not studied European History, a course in musical appreciation outlined in chronological order. I suggested that seniors be encouraged to elect musical appreciation, but evidently I had no plan by which the pupils of the first three years of the high school could be growing to understand and love music of worth. Today I come to you with no definite plan and with far less assurance than I possessed two years ago. My former assurance was due, I think, to lack of experience. I was patterning my course somewhat on the course I had had in the Conservatory, forgetting that the Conservatory is a school for the training of musicians for a vocation while high school music courses are planned to give a vocational training.

What is the object of our musical appreciation course anyway? Is it not to make possible emotional and intellectual response to the best music in the lives of the many? We know that music has not functioned to its fullest capacity when it has aroused only an emotional response to tonal beauty, for music speaks thoughts and demands intellectual understanding. While music tends to appeal directly to the feelings, does it not reach the feelings in a large part through ideals acquired through *training* in discrimination? We cannot love what we do not know, and music that is understood is really the only music that awakens a *genuine* feeling of delight. Training in discriminating listening is bound to make a thinking American audience; and if we truly believe that "popular music is, after all, only familiar music," we must know that making the best music popular is the work of the appreciation courses of the public schools.

To know and appreciate the music which one is likely to hear in a concert program of today, one should have studied music from several standpoints:

First: In order that a listener may get distinct impressions, he must be able to follow the orderly arrangement of music, therefore, he must know something of form. Intelligent listening to music consists of understanding the structural elements of composition. The study of form may be as dry as a bone or it may be most interesting. I should suggest that the best way to start the study of form is through the material in the regular singing book where the pupils may see, sing and play as well as hear the material under consideration. Let me digress long enough to say that I think the phonograph has played the star part in our musical appreciation work too long. When we are studying the large forms of instrumental music, the phonograph is the only means of getting the material before the pupils, so we give thanks for phonographs. But when we are studying simple song forms, folk songs, art songs and choruses

within the reach of the pupils, why should the phonograph cheat the pupils out of the pleasure of doing?

Let me enumerate the several points from which music may be viewed, and see if that will help us in planning an appreciation course. *First*: I have named form. *Second*: I should name style of composition. *Third*: Instrumentation through which the composer expressed his thoughts. *Fourth*: Esthetics. *Fifth*: Biography. Whenever a pupil becomes interested in a composition naturally his interest reaches out to the man who made it. *Sixth*: History. Last of all I should study a composition from its place in the chronological development of music.

In one high school in the state where musical appreciation is given two periods a week, one semester is spent on each of the six phases mentioned above, thus giving the pupil an opportunity for three years study in musical appreciation.

Let us always remember that from whatever standpoint we are studying music, we must choose the composition that will represent the composer *at his best*. Choosing material of permanent value must be uppermost in the mind of the teacher.

As I have watched different musical appreciation classes, I have been struck with the idea that the pupils are too passive. Children of high school age are not ready for the lecture system of teaching, nor will they grow if their business is simply to listen. The teacher should ever keep on the watch lest the passivity of the ordinary American audience at a concert creep into her class room. Her pupils must be awake and alive, always sympathetic with the composer's viewpoint.

Now have I stepped on somebody's toes in these few remarks? I hope so, for I want that person to come back with some keen thinking. In my mind, musical appreciation is the most important subject in our music course and, because of the sporadic attention given it by us teachers, it is the most poorly handled. I should like to carry on a lively correspondence in the coming months with some of you who are willing to think conscientiously on this subject and then sift your thoughts so that we may give something definite to our Illinois high schools.

After an animated discussion of this report, the morning's program was altered in accordance with an arrangement made at the meeting of the General Committee, so that the Music Section adjourned to meet with the County Superintendents' and Village Principals' Section while the subject, "Possibilities of Music in the Small High School," was under discussion.

Afternoon Session

The afternoon session was opened with the annual business meeting. Mrs. Elizabeth McNair of Mattoon and J. Lawrence Erb of the University, whose terms as members of the Music Section Conference Committee expired at this time, were re-elected for three years. The present officers, J. Lawrence Erb, Chairman, and Mrs. Elizabeth McNair, Secretary, were re-elected for the ensuing year. The Chairman announced that all committees would be continued as at present constituted. Mrs. Homer E. Cotton was elected to give the three-minute report of the section meeting at the Saturday morning session. At the request of the Chairman, Miss Mary D. Phillips of the University, a

member of the Conference Committee on Curriculum Readjustment, gave a report of the very important work which this committee is undertaking.

Committees on Curriculum Reconstruction **Report by Miss Mary D. Phillips, University**

"What has thus far been accomplished and is now available for the Readjustment of School Curricula" was the title of a paper by Dr. Charters, read last year. At the close of this paper Dr. Charters suggested a method of procedure for the cooperative study of High School curriculums. This plan was adopted by the Conference and committees were appointed.

Last April these committees were called together for a meeting at the University. Plans were discussed, and each Section presented problems to be studied in that particular field. The first thing that had to be done was to go over the literature of scientific curriculum construction as found in Part I of the 14th, 16th and 17th Year Books of the National Society of the Study of Education. Also it was suggested that it would be most helpful, in case any were planning to do Summer School work, to take courses in curriculum construction with either Professor Bobbitt of Chicago University or Dr. Charters of Illinois. After carefully studying the literature of the year book, I decided on "The type of study which seeks to determine the content of one subject in another school subject," and, as a result, the importance of music appreciation in its relation to high school English is the material I am investigating.

This Bulletin will make a study of the subjects of English Literature which are required for entrance to the University. It will correlate with each piece of literature the music that could be studied in connection with it, be it ballad, symphony or folk dance. What high school student will not be more interested in the ballads and lyrics of the English class when he hears them set to music? The Music Supervisor and English teacher should cooperate in every way. This will tend to impress upon school superintendents and principals the importance of music in the curriculum.

The report will contain the name of every composition, publisher, price and, if phonograph records are obtainable, price and number of record, and, in some instances, a short analysis will be given. For example, there are many choral and orchestral numbers that have been inspired by the Iliad, Odyssey and the Aeneid. I am sorry to say a great many of these were by the modern German composers so had to be eliminated. Although in many instances there are no records of these orchestral numbers, still many are available, and it is hoped that this will be one means of interesting students in orchestral music, so that when they attend orchestra concerts they may have a better understanding and broader appreciation.

Palgrave's "Golden Treasury of English Verse" may have added charms to us when we find that most of these verses have been set to music. "English Melodies from the 13th to 18th Century," by Vincent Jackson, contains the music for many of these poems. There is also a history of each song. There are some poems such as "Rule Britannia," "Believe me if all those endearing young charms," and others, that can be found in so many places that I have not attempted to name all, but have given the most prominent books or leaflets in which the number can be found. Irving's "Sketch Book" of course has a world of material both in music published and records.

"Representative Poems," with Carlyle's "Essay on Burns" is of especial interest to us. Carlyle says, "It is on his songs that Burns' chief influence as an author will be found to depend." The most complete volume that I have found is "Songs of Burns" by John Kenyon Lees, with historical notes by H. G. Shelley, published by Schirmer. The introduction should be read by every English teacher, and the interesting thing to note is, "Instead of saying that

Burns created Scottish song, it would be more true to say the Scottish song created Burns, and that in him it culminated." Carlyle appears to have been profoundly ignorant of the song-heritage into which Burns entered, or he would not have done those old and nameless singers of his country the injustice of shutting his eyes to the worth and importance of their work. This particular volume would also furnish a link between Music and Art because of the rare old prints it contains.

The chief narratives of the Old Testament have given to us some of our greatest oratorios. To further the interest in Hebrew music the records of Hebrew chants could be heard, but this is merely a suggestion and takes us to historical correlation. The supervisors may use their own methods in this correlation work, for this report is merely a study of available material.

There are many striking coincidences and resemblances between poets and musicians, in their lives, in their ideals and sources of inspiration, and, above all, the inner spirit of their art, as for example Schumann and Browning, Schubert and Keats. This method might be used in correlating biographies. As I have said before, the report will make but few suggestions as to the method to be used in correlation of music and literature. It aims only to give in convenient form material that can be used in such a study.

The reports from the high schools accrediting music in one form or another toward high school graduation established the fact that, out of 87 schools represented, 63 grant such credit. Since Chicago and several other important cities were not represented at this meeting, the total for the state would be considerably higher. The alphabetical list of the schools reporting follows.

Arcola	Hoopeston
Aurora	Jacksonville
Barrington	Joliet
Belleville	Keewanee
Bement	Kenilworth
Bloomington	La Grange
Champaign	Lawrenceville
Clinton	Lincoln
Crystal Lake	Litchfield
Danville	Lockport
Decatur	Marion
DeKalb	Mattoon
Delavan	Metamora
Dixon	Momence
Elgin	Monticello
Elmhurst	J. Sterling Morton
Eureka	Mt. Vernon Twp.
Evanston	Mt. Sterling
Ferry Hall, Lake Forest	Newman
Galesburg	Oak Park
Geneva	Olivet Academy
Geneseo	Olney
Girard	Onarga
Harrisburg	Pana
Highland Park	Paris

Riverside
 Rockford
 St. Charles
 St. Francis, Joliet
 Salem
 Springfield

Sullivan
 Taylorville
 Urbana
 Weldon
 Westville

A showing of hands indicated that 17 of the High Schools represented were accredited by the University in Theoretical Music.

Before taking up the report of the Committee on Prerequisites for Accrediting Applied Music, the Section Chairman announced that, since this report was directly related to the topic to be discussed at the Round Table,—The Accrediting of Applied Music considered from the Point of View of the University,—he would ask for the presentation of the committee report as the basis for the Round Table discussion. Accordingly the report was presented, as follows, by Miss Mary D. Phillips, University, Chairman of the committee:

The purpose of these annual conferences is, in large measure, to unify the public educational system of the state; to furnish opportunity for the high school teachers to discuss their problems, but also to enable them to outline their college preparatory courses in such a way as to lead automatically to the admittance of their graduates to the University without conditions. It would save time, therefore, and insure the proper relations with the University if the discussions of Prerequisites for High School credits in Applied Music were to bear in mind the University's policy.

A student who wishes to enter the School of Music at the University must pass an entrance examination, demonstrating that he has completed three full years of work in the practical specialty submitted. In other words, a Freshman in the School of Music is expected to be in at least the *fourth year* of study in the major subject. On this basis the principle for outlining the high school prerequisites and credits becomes comparatively simple.

The University Senate, which is at this time considering the matter of entrance credits in Practical Music, is doing so on the basis of allowing one credit in Practical Music and one in Theoretical. One credit, as the term is here used, means a year's work. If the University should accept a year's work done in the high school, there would naturally remain two of the three preliminary years which would fall into the category of prerequisites for high school credit. Interestingly enough, a number of the high schools of the state which are granting credit for high school music have, on their own initiative, adopted the two-year prerequisite plan. The committee recommends that the basis for high school credits in Applied Music shall be a minimum prerequisite of two years in the specialty offered for credit.

It is also the duty of the committee to present for the consideration of the Conference suggestions of outlines of the work that might properly be accepted as representing the two years' prerequisite to the accredited work. There is always grave danger that such a recommendation be made too much in detail, so that there is little or no opportunity for the individual school system to adapt the course to the needs of its community. This is, of course, contrary to all good educational usages. The committee therefore hopes that the specific recommendations which it makes in this direction, shall be viewed as suggestive, and not in any way as either a model or a mandate. It is the purpose of these suggestions to indicate the general type and grade of work that should be accepted before credit is given. But it is hoped that the individual school

will in each case modify or reject entirely the particular exercises and compositions listed and build up the specific requirements to suit itself.

Reports were asked and received from practically every school in the state which is accrediting Practical Music, and, as might be expected and hoped, they do not agree in detail, nor in every case in principle. For obvious reasons the committee does not feel called upon nor justified in drafting on its own initiative and responsibility an outline of prerequisites, since that would demand technical and specialistic knowledge of the subject which the committee does not feel that it has a right to assume. The committee has therefore taken the prerequisites upon which the state educational authorities base their accrediting, and has modified these in slight detail to meet the needs of this situation. This is the material which is submitted in the appended report. The committee does not hope nor expect that the report will prove satisfactory to all interested, nor that it will necessarily be adopted as it stands. But there must be some concrete basis for discussion, and this seemed the best for the purpose.

The prerequisite outlines submitted are for piano and voice. The committee did not feel that there was at the present time sufficient demand to justify making an outline for violin, but no doubt later the need of one will be apparent. As a matter of fact, it is a question whether there will be much demand for the voice outline, for the majority of high school students are not sufficiently mature to undertake three years of vocal work before their graduation.

With this statement of the basis upon which the outline was selected and prepared, the committee submits it with the hope that the Conference may discuss it freely and in detail.

PIANO

Ability to play all scales, major and minor and chromatic, in simple form, hands separately and hands in parallel motion, *without notes*, at a reasonable tempo, say not less than 120 notes to the minute, by the metronome.

Ability to play an easy Two-part Invention or Prelude or Fugue of Bach. Whole or part, as called for, of a simple Mozart or Haydn Sonata. This presupposes a study of Clementi or Kuhlau Sonatinas in preparation.

Technical studies of the grade of Duvernoy School of Mechanism, Czerny Velocity Studies, first ten, and presupposing material of the type of the Duvernoy Primary School, and including Heller Studies, or similar material combining the technical and the musical elements.

Pieces by Grieg, Mendelssohn, Heller, Chopin, or contemporary composers which have a distinct musical content as apart from purely technical or educational considerations.

A knowledge of the rudiments of music, including especially the rhythmic values and the meaning of the more common musical terms.

A pupil who does not know the names of pieces and studies and their composers which he or she offers in the examination will be considered to have failed in this portion of the test.

The ability to read at a moderate speed *at sight* at the keyboard a simple composition of a grade of difficulty not exceeding the second in a scale of ten.

VOICE

A free and reasonably correct type of vocal emission, based upon a systematic and constructive system of vocal gymnastics as well as exercises in the sustaining and crescendo and diminuendo of the tone in any portion of the medium or low voice.

A working knowledge of the more common studies that fairly belong to the first two years of vocal study. This material should be presented by the candidate in graded order and should include such studies as the Sieber Eight-measure Vocalises, the Twenty Vocalises by Salvatore Marchesi, the Vaccai Vocalises, the Tosti Fifty Solfeggi, the H. W. Greene Standard Graded Course, first two books, Concone, or other standard material in sufficient abundance to

ensure both technical and musical training. The vocalises should be sung preferably in Italian or on the old syllables, rather than on sustained open vowels.

At least twenty standard songs, not more than half of which shall be of the class of so-called teaching or encore songs, and the other half selected from the more simple songs of Schumann, Schubert, Franz, Grieg or similar art-composers.

A knowledge of the rudiments of music, including especially the rhythmic values and the meaning of the more common musical terms.

A pupil who does not know the names of pieces and studies and their composers which he or she offers in the examination will be considered to have failed in this portion of the test.

The ability to read at a moderate speed *at sight* at the keyboard a simple composition of a grade of difficulty not exceeding the second in a scale of ten.

In all cases genuine equivalents will be accepted at the discretion of the examiner.

After a lengthy discussion it was voted that it is the sense of the Music Section that *two years* of *Piano* should be demanded as a prerequisite before credit is given for outside or Applied Music in the High School. This applies to both Piano and Voice. A minimum of one half-hour individual lesson per week for the school-year and one high-school period per day,—45 to 60 minutes as the usage of the school may be,—of practice shall be considered a year's work. There was some discussion of the basis for Violin credits, but no definite action was taken, as it was considered wise to give the matter further consideration. For the same reason, the curriculum proposed was laid over until next year's Conference for discussion. It was also strongly urged, though not definitely voted, that students offering Applied Music credits shall also be required to take or pass examinations in a certain amount of Theory, perhaps such Harmony or Musical Appreciation courses as are offered in the school curriculum.

The Question Box brought forward the query, "What is the attitude of this Conference and of the University toward such publications as the Ditson School Credit Course and the Progressive Music Series?" The discussion brought out the fact that certain over-zealous agents were employing a species of intimidation and misrepresentation which was likely to mislead teachers of music who had no definite information upon this question. The Chairman stated positively and without qualification that the University recognizes no publication whatever and accredits none. The University has no alliance of any sort with any publication house and does not accept any certificates or other credentials from such houses or their representatives. Any statements to the contrary are unauthorized and entirely false.

14. PHYSICAL EDUCATION SECTION

A very representative group met for the third anniversary of the Physical Education Section of the State High School Conference.

The meeting was called to order by the Chairman, Miss Louis Freer, who read a message from Mr. Hollister to the Physical Directors.

Dr. Gertrude E. Moulton gave a paper on "Hygiene Instruction in the High School." The paper follows:

Physical Examinations in High Schools

The majority of our girls entering the college gymnasium from the smaller high school have had basketball or other sports in high school, but have not had any kind of physical examination. They sometimes give as a reason for this, the statement that there was no regular teacher of physical education, but that their play was supervised by the teacher of Latin or English or Mathematics, "who didn't know anything about giving physical examinations." This is probably true, but I see no reason why any active or intelligent teacher who is willing to put time and thought upon the matter can not learn something about it and learn through doing.

Always in undertaking a new thing we must decide as to its worthwhileness. A physical examination is of value to the instructor in games for it gives him some information as to the strength of each individual, and often directs his attention to the able, strong-appearing girl who must be gently and unobtrusively restrained, or to the sluggish, lazy individual who needs to be given added incentive to active work. It shows the instructor the most prominent weaknesses and faults as well as the strength of the individual. Whether an examination is of value to the student, or whether it merely represents an ordeal to be gone through because it is required, and sometimes looked upon as a possible end to all fun, depends upon the examiner and her ability to arouse interest in the student, and especially to relate the facts found at the examination to the rest of the student's life; to stir up in him the desire to strengthen the weak parts; not for the sake of being uniformly strong, or making a better record at the examination. Few of us would get very much excited about increasing the strength of any particular part of our bodies if it meant in our minds merely the ability to get a better grade in a physical examination. But if it meant the recognition of our weakness and the beginning of plans whereby we saw that we might become more efficient in all our work and therefore increasingly free,—free to do as we pleased because we were able to put aside our physical handicaps and limitations,—then our interest might be aroused. If the physical examination can be given by one able to show this sequence it can become a powerful ally in helping to direct the lives of the students along right lines. But no deep and abiding interest is possible in detached facts and nothing is gained without such an interest. Reudiger's experiment in the transfer of learning has always been suggestive to me. You are probably more familiar with this experiment than I am and I will only recall the one important conclusion, that there is need of consciously relating any lesson or fact learned to other things in life if we are to be able to make use of it. In two school rooms with children essentially alike in environment, age, and training, it was required that one set of papers,—say the arithmetic papers, were to be absolutely clean and neat. In one room no mention was made of the value of the training. It was simply a quiet and rigid requirement in one subject only. In the other room the requirement was exactly the same, but talks were given regarding the value of neatness. Commendation was ready for the child whose desk or other papers showed care. Here, as in the first room, the only papers which must pass inspection were those in arithmetic. In the one room the children as a whole grew even more slovenly in their other papers, the care of their desks, and even their persons. In the other room the qualities emphasized were found in every phase of their work. Neatness became more or less of a habit because the wise training of the teacher

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brought its value to the consciousness of the child, related it to other things in life. One object of physical examination that I would give is the showing to the individual where improvement could be made, and the arousing of interest in some physical development for the sake of an efficient life,—and by efficient life I do not mean merely the ability to make good in one's chosen line of work. I mean, too, the ability to carry on social relationship,—to “play the game” in mental and moral life. It is not at all certain that one's business is the most important thing to which he should attend.

Another object of the physical examination is to give the instructor information which will help in a wise and reasonable direction of games and exercise for the individual playing the game.

I would recommend only the measurements and tests which show something of value that can be changed by the life and exercise of the individual. In the history I would have included that information which would help to a general understanding of the child and his environment.

I suggest the following items for the examination card:

1. History—Parents, living——, well——.
Child, age——, nationality——, habits of sleep——. Previous illness, especially tonsillitis, rheumatism, chorea, scarlet fever, frequent colds, appetite, habits of bathing and exercise, constipation, headaches, menstrual history.
2. Examination—
 - a. Strengths—push up, pull up, stoop fall positions, double arm flexion, lying, double leg elevation with straight knees, and grip with hand dynamometer.
 - b. Endurance—running for speed and for distance without competition.
 - c. Flexibility—tested by some such stunt as climbing over a wand held firmly at both ends by the student.
 - d. Measurements—weight, height, and such girths as neck girth, that of the chest before and after normal inspiration, waist girth with and without corsets where corsets are generally worn.
 - e. Inspections—posture, tested as described by Miss Bancroft in her book “The Posture of School Children.” The general axes of the body should be vertical and not zig-zag. A straight pole held vertically beside the student, from the forward part of the foot to the front of the ear should parallel the axes of the body. Miss Bancroft's book, studied by the teacher in charge, will give many suggestions for stirring up interest concerning this test. When high heels are worn it would be of value to try this test with and without the shoes on.
 - f. Type of skin, especially the presence of acne sometimes so stubborn to treatment, but often closely related to lack of cleanliness or constipation should be recorded.

The feet of most boys and some girls are weak and much pain and inefficiency could be prevented if the girls were examined and given instruction as to habits of carriage, clothing of feet, and exercises. The feet should be carried parallel, weight toward the outside, and one foot should be planted directly in front of the other in walking. An outline of the weight bearing foot which is convex on the inner side indicates that the weight is carried on the inner side of the foot. I can not say too strongly that the wearing down of the heels on the outside does not indicate that the weight is carried on the outside. This merely shows that the outside of the heel strikes the walk first. In the outline, too, notice whether the great toe is in line with the foot or bends outward. When the two feet are placed together the great toes should not separate from each other, but should touch each other throughout their entire length. Before a teacher has examined many feet, even without instruction of any kind, she is able to pick those which are good and those which are bad. It is much easier

to prevent the foot troubles of middle age than to cure them. Our work should be more than prevention, though. It should help to give the individual the lightness and buoyancy, the springy walk, which adds to the joy and enthusiasm of living. Besides the outline of the foot, record the direction of the tendon of Achilles. When viewed from the back this tendon should not curve, even ever so slightly, toward the outside. High heels are often largely responsible for the shortening of the dorsal ligaments of the foot and a low anterior arch, with its resulting callous under the ball of the foot.

Perhaps the most important part, and least attempted by the lay teacher, is the examination of the heart. Even the physician knows comparatively little of the strength of the heart and his usual policy, if there is an irregularity of any kind, is to say "Doing nothing will take all responsibility from me and will not hurt the individual." Therefore he recommends "no exercise." With this view our greatest heart specialist, Sir James McKenzie, does not agree. A valuable opportunity for making a good heart out of a weak one is often lost, so I am going to be bold enough to suggest that the reaction of the heart to exercise be tested in all cases where boys and girls desire to play active games. The test I would give, under the usual circumstances, would be only those of the pulse. This usually ranges from 65 to 100. Anything above 90 in a girl at rest I would regard with suspicion. The pulse should be taken while the student is quiet and immediately following five minutes of vigorous exercise, and again after a short period of rest, say five minutes. Marked irregularity, an increase of twenty beats or more per minute after exercise, and a failure of the heart to quickly regain its normal should excite some care. However closely you may watch an individual for signs of failure of the heart to do its work, as breathlessness, exhaustion, et cetera, the individual's sensations are of even more value. The cause of heart in diseased conditions is exactly the same as in healthy conditions. It is the persistent forcing of a heart to do its work without sufficient time to recuperate. The heart, like other muscles, grows strong from use, but it must not be overworked. If we use the muscles of a finger to the point of exhaustion no serious results follow, for nothing of importance depends upon it. But this is not true in the case of a heart muscle. The work which the heart can do may be limited. Merely to keep body and soul together may be too much for some hearts and result in inability to get the breath and in utter exhaustion and stopping of the heart, but the most valuable test we have of too much work is the sensation of the individual himself, when he is not unduly excited. Exercise, playing, running, to the point of being tired strengthens the heart muscle, but it must not go to the point of exhaustion. If a finger were worked in an ergograph until it were tired, then rested, and the work repeated the finger would quickly increase in strength.

If, for example, it takes ten minutes to become reasonably tired, and five minutes rest will give the individual new energy, and if twenty minutes' work will completely exhaust the individual, it will take more than a proportionate amount of time or ten minutes, to give new energy after twenty minutes' work. It may even take hours or days.

In medical examinations of patients we often find murmurs and therefore limit the work of the patient. Sir James McKenzie says the presence of a sign, revealed by physical examination, no matter how abnormal it may seem, is of no serious significance so long as it is the only sign present, or so long as there is no limitation of the reserve force of the heart. I doubt if we can always trust the sensations of children in the excitement of a game. If an effort which formerly did not tire an individual produces signs of distress the warning should be heeded, although a child should not be told he has heart trouble by one who does not know the significance of the signs and symptoms. In case of any doubt, the child should be referred to a physician.

In arousing interest concerning the various conditions shown by the examination I refer you to the work of the department of physical education at the University of Illinois. The students here, under the direction and supervision

of some member of the faculty, work on individual problems of their own choosing. The results have been extremely gratifying and the instructional staff deserve credit for having done unusual work along this line.

In the discussion which followed, Dr. Moulton was asked for a cure for acne. She prescribed cleanliness.

Dr. Moulton also gave some arguments that would convince any hostile community that physical examinations in the High School are a necessity.

Major J. L. Griffith was next introduced and talked on "Physical Lessons for the Nation as Shown by the War."

This paper was not available.

In the discussion, Miss Freer brought out some of the points made at the Chicago Conference in April in the discussion on Physical Training versus Military Training. It was agreed that Physical Training should be the basis for Military Training.

After the discussion the regular business meeting was held.

Miss Freer read the report of 1918 Conference. Reports were given on the Plans for Organizing a Girls' Athletic Association in the high schools of the State. Miss Lydia Clark summarized the aims of the State league as follows:

1. Standardized athletics.
2. A system of athletics for girls.
3. A stimulation of interest in a State athletic emblem given by the Central Committee.

Miss Clark, acting for the Athletic Association of the State Normal School, Normal, Illinois, offered the league five dollars to be used as they saw fit.

Miss Emma Breitstadt gave a report on the committee whose duty it was to work over the constitution of the State League. She also made known the kind offer of the Woman's Athletic Association of the University of Illinois to give financial support to the State League. The campaign was to be started by sending a copy of the plans of the league to all high schools of the State.

Miss Edith Hildebrandt led the discussion of the plans and constitution. There were some differences of ideas about the point system.

A motion was made that a committee be appointed to formulate plans to standardize the tests for high schools all over the State and that there be a standard point system for each event.

It was then suggested that the plans and constitution for a State League be not sent out to the high schools until plans for a point system be submitted to the executive committee for approval.

The meeting was adjourned for the morning.

The meeting for the afternoon opened by the Chairman appointing a committee composed of Miss Glasso of Normal, Illinois, Miss Byrne

of Highland Park, and Miss Montgomery of Minunk, to make such corrections as they deemed necessary and submit them to the standing committee.

Miss Frances Musselman gave a paper on "Physical Education in the Smaller High School."

Miss Musselman failed to send in her paper.

A very interesting discussion followed this paper. Miss Musselman advised that Sex Hygiene be taught in the high school in correlation with Science. The teacher must be one of fine personality and refinement. The lesson should be in the form of a lecture or talk, with no textbook or quizzing. In cases where it is advisable, deal with the individual.

It is a good plan to have an outside lecturer if they have the necessary requisites to do justice to such a lecture.

After this paper the discussion of the morning on Curriculum Reconstruction was continued.

A motion was made and carried to make corrections on the plans before sending them out.

Miss Lydia Clark of Normal College was nominated as president of the State League and unanimously elected; Miss Hildebrant was elected vice-president; Miss Breitstadt, secretary-treasurer, and Miss Lackey and Miss Exley, members at large.

A motion was carried to the effect that a committee of one member from the University Department and one from each of the five Normal schools be appointed to interest the Normal schools in the State League. Members to be appointed by the acting president.

Miss Freer was elected chairman of the program committee with power to appoint the other three members.

A motion was made and seconded that the acting secretary be instructed to send a vote of appreciation to the Athletic Association of the Illinois State Normal University, Normal, Illinois, for their donation of five dollars to be used as the League sees fit; and to the Woman's Athletic Association of the University of Illinois for their financial support of the campaign for the Girls' Athletic Association in the High Schools of the State.

It was suggested by Miss Clark that a committee volunteer to meet some time the first of next year to discuss and promote a course of Physical Education for Elementary Schools in the State of Illinois and to work for an increased time allotment for Physical Education.

It was suggested by Miss Robinson that some man who is familiar with legislature be asked to help on this committee.

A motion was carried to give the executive committee power to arrange for a State athletic emblem.

Meeting adjourned.

Respectfully submitted,

ERMA B. EXLEY, *Secretary.*

15. PHYSICAL SCIENCE SECTION

Our section met in Room 100, Physics Laboratory. The morning session was well attended, there being 110 present, and all seemed to get great benefit from the papers presented. The discussion of the papers was spirited, intelligent, constructive, and general.

After a few introductory remarks by Chairman J. B. Wallace, Dr. F. R. Watson of the University presented an interesting project in sound which showed us an easy and yet impressive way to make clear the relations of length, width, and thickness to the tones given off by vibrating bars. This was followed by a project based upon the automobile and dealing especially with the relations of the sets of gears in the gear case. This was well presented by Miss Aleta McEvoy. Mr. Clarence Bonnell then presented a project in finding the density of coal and its practical use in estimating the amount of coal removed from any particular region of a mine. The last project was outlined by Mr. F. D. Barber. It dealt with the intelligent handling of home heating in relation to the hot air furnace.

Upon motion of Dr. B. S. Hopkins, of the University, seconded by Mr. Wirick, of Chicago, it was decided to devote the morning session next year to general papers upon timely topics relating to Physics and Chemistry, and the afternoon session to sectional meetings of the teachers of Physics and Chemistry and such other groups of teachers of the Physical Sciences as may desire to hold meetings.

Miss S. A. McEvoy, of Rockford, was elected as a member of the Executive Committee to succeed J. B. Wallace, of Wyoming. Miss McEvoy was also elected Secretary of the section for the coming year, and Mr. T. M. Barger, of Normal, was elected Chairman.

The afternoon was spent in a joint session with the Biology Section in Room 228, Natural History Building.

T. M. BARGER, *Secretary*.

The papers presented at this session are given below in the order as indicated in the published program.

A Project in Machines S. Aleta McEvoy, Rockford

Transmission Systems.

- A. Parts of Transmissions.
 - I. Clutch.
 - a. Definition.
 - b. Types.
 - 1. Friction.
 - a. Definition.
 - b. Location.
 - c. Qualification.
 - d. Division.

1. Cone clutch.
 - a. Descriptions.
 2. Reverse cone.
 - a. Descriptions.
 3. Multiple disc clutch.
 - a. Arrangement.
 - b. Principle of operation.
 4. Internal expanding type.
 - a. Structure.
 - b. Principle of operation.
- II. Speed Changing Devices.
- A. Definition.
 - B. Reason for having speed changing device.
 - C. Divisions.
 1. Sliding gear.
 - a. Progressive type.
 1. Description.
 2. Operation.
 3. Advantage.
 - b. Selective type.
 1. Description.
 2. Operation.
 3. Advantage.
 4. Disadvantage.
 2. Planetary.
 - a. Description.
 - b. Operation.
 - c. When used.
 3. Individual clutch.
 - a. Structure.
 - b. Advantage.
 - c. Disadvantage.
 - d. Where used.
 4. Friction Drive.
 - a. Structure.
 - b. Where used.
- III. Drives.
- A. Shaft drive.
 1. Description of the structure.
 2. Advantage.
 3. Disadvantage.
 - B. Straight line drive.
 1. Description of the structure.
 - C. Live axle.
 1. Semi-floating.
 - a. Description.
 - b. When used.
 2. Full floating.
 - a. Description.
 - b. When used.
 3. Three-fourths floating.
 - a. Description.
 - b. When used.
- IV. Differential.
1. Bevel gear.
 - a. Definition.
 - b. Structure.
 - c. Why used.

2. Spur gear.
 - a. Definition.
 - b. Structure.
 - c. When used.
- B. Problem and Project.
 1. Assemble a selective type of sliding gear.
 2. Figure out gear ratio for different speeds.
 3. Plot curve to show gear ratio of different speeds.
 4. Make card board model to show how gears operate.
 5. Make drawings that show different positions of gears and blue print the drawings.
 6. Take pictures of transmission parts and make permanent slides to be used in lantern.
 7. Visit a Transmission Company.
 - a. Trace a transmission from origin to completion.
 8. Visit a garage.
 9. Apply principle of friction to the parts of transmission.

A Problem in Mechanics of Liquids Density of Saline County Coal Clarence Bonnell, Harrisburg

About April, 1912, I was asked by D. B. McGehee, head clerk of the O'Gara Coal Company at Harrisburg, Illinois, to direct him in determining the density of Saline county coal. I suggested that this could be done at the Harrisburg Township High School and he soon after had samples brought from various mines and from different parts of the same mines. From each lot, a typical lump was selected. The usual procedure of weighing in air and in water was followed. Each member of the class was given a box of samples as they came from the mine. Several lumps from each lot were then weighed, but, for some reason that I do not remember, a report upon but one typical sample out of each lot was entered in the report of the coal company. The time for doing the work and preparing the report was limited.

My copy of the report was not to be found when I came to write this paper so I recently asked Mr. McGehee for a copy of the original report. I submit an exact copy of page 209 from Book No. 2, O'Gara Coal Company's Statistics, which is a typewritten volume containing an almost inconceivable number of tables covering every phase of costs and production in the local coal industry. This page is a copy of my original report and shows eleven determinations of densities for Saline county coal, mostly from the O'Gara mines. The average density of eleven samples is 1.278. The average of tests made in succeeding years on samples taken from the local mines and from home coal bins has been very nearly the same.

I am informed that 1.28 is the figure used by this company in its engineering department. R. D. Brown, chief engineer, tells me that he more recently made a determination of densities of the company's coal, but his efforts did not result in any change in the figures used in their work. I did not find Mr. Brown's results recorded in the company's statistics nor were there any other records on densities than mine.

The figures concerning the density of Saline county coal are useful to the company chiefly in two ways. Often, a mining company through faulty surveys or otherwise, removes coal from under property that it does not own, that is without having bought the coal or the right to mine it. In adjusting the damages it becomes necessary to know not only the area from which the coal has been removed and the thickness of the vein, but also the density of the coal, as the amount of indemnity is based upon the tonnage removed.

I remember that the president of the Wasson Coal Company, a few years ago, brought to me a blue print of a section of his mine which had extended over into the O'Gara holdings. He asked me to estimate the tonnage removed. For some reason unknown to me, he wished my estimate in addition to those of the engineering departments of the two companies. I made the estimate using 1.28 as the density. Within the last few days, while I was looking up the old data for this paper, this same controversy was mentioned as one of the cases where the O'Gara Coal Company had used the figures determined by my classes.

Another use of the density of coal is in figuring the company's income tax which it seems is calculated partly from data as to tonnage removed as compared with that remaining, all of which is too complicated for discussion here.

DENSITY OF COAL

No. of Specimen	Source of Specimen	Weight in Air	Weight in Water	Wt. of Equal Vol. of Water	Density
1	O'Gara No. 4.....	164.10g	37.70g	126.40g	1.20
2	Saline Co. No. 2.....	113.90	24.27	89.62	1.20
3	O'Gara No. 4.....	355.82	88.43	267.39	1.33
4	Fife's Mine W. of Carrier Mills...	198.65	54.65	144.00	1.37
5	Saline Co. No. 3.....	108.85	26.95	81.90	1.30
6	John Yates' Slope Mine.....	309.00	73.60	239.40	1.29
7	O'Gara No. 4.....	92.79	20.09	72.70	1.27
8	Saline Co. No. 3.....	195.55	44.45	151.10	1.29
9	O'Gara No. 7.....	200.17	48.24	151.93	1.31
10	O'Gara No. 4.....	125.25	28.20	97.05	1.29
11	O'Gara No. 4.....	425.00	75.00	350.00	1.214
12	Anthracite found in car at O'Gara No. 7	103.28	40.57	62.71	1.64
	Average for Saline County				1.278

The above determinations were made by pupils in the Harrisburg Township High School during the present school year.

CLARENCE BONNELL, *Instructor in Physics.*

Harrisburg, Ill., May 8, 1912.

A Project in Heat Fred. D. Barber, Normal

It seems to be the fashion for every teacher of science, in fact for every speaker and writer who gets the ear of an audience, to define a project. It is, moreover, evident that most, if not all, such definitions express the desired meaning which the speaker wishes the term "project" to take on in the public thought rather than expressing the accepted meaning. I doubt much if at the present time the term can truthfully be said to have acquired any widely accepted meaning to the exclusion of other interpretations. I believe, however, that as a device for teaching science most of the definitions which have been formulated thus far have for a core a rather sharp departure from the long established method of teaching science.

Since it is the fashion to define a project in such terms as we hope may become the accepted meaning, I shall attempt a definition upon those grounds only. I shall make no claim that my definition expresses the idea of a project as it is conceived by any other persons. I hope that the term "project" in science teaching may come to mean something like this:

A project is a device for teaching. It consists in setting clearly before us a concrete life situation, not clearly understood, with the definite purpose of studying that life situation to discover the scientific concepts, principles and laws involved to the end that we may control that portion of our environment.

If we accept the statement that it is a device for teaching only, it may or it may not involve manual constructive or manipulative abilities. It must involve mental constructive ability. To my mind it should come to mean a departure from the older methods of science teaching in this particular: The older methods all started with the teaching of scientific concepts, principles or laws and ended with showing, by one or more illustrations, where and how those concepts, principles or laws were involved in life situations. The project methods reverses the order of procedure. It starts with a life situation and evolves, by study, the concepts, principles and laws which are involved in the particular life situation.

I do not believe that a project necessarily must be launched by the asking of a question. It certainly is not true that the asking of a question necessarily means that a project is being launched notwithstanding the fact that some laboratory manuals which profess to illustrate the project method begin every exercise by asking a question. If the exercise assigned has within it the essence of a project, the student will readily discover the fact without its being couched in the form of a question.

It has been said that the project method is the only sensible and effective way to teach science. I do not believe that statement. The project has its place in the teaching of science and that place is a prominent one. In the first two years of the high school I believe it to be altogether the better method, *if we must choose one method only*. But even in beginning of the study of science, I believe that time is often saved and more rapid progress is made by frequently teaching the generalization first, *provided, that the concrete setting in a life situation, a vital situation in the student's environment, is made soon after*. Let us not delude ourselves into thinking that all science teaching in the past was worthless.

HOW A FURNACE HEATS AND VENTILATES A HOUSE

Purpose: To study the scientific principles involved in the heating of a house by means of a furnace and the ventilation it affords.

Construction of the furnace and its pipes:

Pass a cord or tape line around the jacket of the furnace and measure its circumference. Compute its diameter.

Open the feed door of the furnace and either measure or estimate the diameter of the fire pot. Does the jacket fit closely to the sides of the fire pot? How many inches of space do you estimate there are between the fire pot and the jacket on each side? What is the purpose of this space?

Note the cold air pipes leading into the lower portion of this space between the fire pot and the jacket. Note the hot air (or better warm air) pipes leading from the top of this space to the rooms above. Trace the cold air pipes back from the furnace and determine whether the pipes bring in fresh air from outdoors or whether it brings air from the rooms above. If the first is true, the system is said to have a "fresh air supply," if the latter, it is an "inside circulation system." Carefully describe the circulation of air through the cold air supply pipes, through the space between the furnace and the jacket, and through the hot air pipes and registers into the rooms.

Now examine the draft damper in the ash pit door. Open the ash pit door and see where the air must go. Where does this air escape from the furnace? By opening the feed door see if there is a radiator above, or back of, the fire pot and combustion chamber. Trace the path of the air which enters the draft damper through the furnace to the chimney. If the furnace is air tight, is there any possible chance of the two currents of air coming together or mixing? What is the purpose of each of these two currents of air (1) the current which passes

down the cold air pipe, upwards through the space between the furnace and its jacket and finally through the hot air pipes to the rooms above, and (2) the current which passes into the furnace through the draft damper, upwards through the fire pot, the combustion chamber and the radiator and finally through the smoke pipe to the chimney?

What causes the air to circulate as it does in each case?

What effect does heating air have upon its volume? State the law (Charles or Gay Lussac). Take the temperature of the air as it enters the cold air supply pipe, also the temperature of the air as it passes into the room through the register which is nearest the furnace and most directly above it. If one cubic foot of air enters the cold air pipe at the observed temperature what will be the volume of the same mass of air as it enters the room through the hot air register at the observed temperature at that point? What is a convection current? Explain its cause.

Theoretically, should the combined area of the cold supply pipes be greater or less than the combined area of the hot air pipes? Why? Determine the combined area of each set of pipes in the furnace you are studying. Are they about the ratio to produce the best circulation according to your determinations? If the day were colder, and the fire burning more rapidly, would the proper ratio between the areas of the two sets of pipes be different? Explain. Heating experts make the combined area of the hot air pipes about $\frac{1}{4}$ to $\frac{1}{3}$ greater than the combined area of the cold air pipes.

A strong circulation is the key to a successful furnace. To secure a strong circulation should the hot air pipes be (1) long or short? (2) horizontal or vertical? (3) placed in a warm portion of the room or a cold portion? Where, then, should the furnace be placed in the basement? Where should the hot air registers be placed in the rooms? In what portion of the rooms should the cold air registers be placed?

What is meant by ventilation? If inside circulation is used, does it afford ventilation? If the cold air supply comes in from outdoors, some provision must be made for foul air to escape from the rooms above. What do you suggest for an exit? What would be the effect of placing an open grate in one room? Would a kitchen coal stove, especially if a fire were kept burning in it, help? What would be the effect of the draft of the furnace itself?

The hot air pipes, usually placed in the partitions between the rooms of the first floor, and which supply the rooms on the second floor with heated air are called "risers." Why should they be placed in warm inside partitions rather than in outside walls? How is the foul, cold air usually removed from the rooms on the second floor? Why are the doors of the second floor rooms usually hung about one inch from the floor?

A Project in Sound

By F. R. Watson

The project, as I understand it, is a practical problem of sufficient interest to cause a student, to whom it is submitted, to pursue the investigation until an explanation is found. With this in mind, the project in sound selected is the construction of a xylophone; that is, to discover the relation between the dimensions of bodies and their vibration frequencies that will lead to the intelligent shaping of a series of sticks to give the musical scale.

It appears from the theory of the subject that the frequency N of a vibrating body depends directly on its thickness t and inversely on the square of its length, l . Expressed in symbols, this gives: $N \propto \frac{t}{l^2}$. It is assumed that the bodies are all made of the same material and have the same mode of vibration. It should be added that the frequency is independent of the width of the body.

A simple introduction to the project is to ask the student to construct sticks of hard maple or oak of equal lengths but varying thicknesses that will give the musical scale. For instance, a note and its octave have frequencies in the ratio of 1:2 so that two sticks of equal length, one twice as thick as the other, will give these two tones. In a similar way by taking the ratio of frequencies of other tones, sticks may be cut out that will give the musical scale. When this is done, suggest that the width be varied. It will be found that the frequency does not change with the width. Finally, set the problem of finding the variation of frequency with the length. This is more difficult and some hint from the teacher should be given, thus: if a stick 20 cm. long is chosen for the fundamental tone (do), the length, x , for the next tone (re) is found from the relation:

$$\frac{\text{do}}{\text{re}} = \frac{8}{9} = \frac{x^2}{20^2}$$

or

$$x = 20 \times \sqrt{8/9} = 18.84 \text{ cm.}$$

The sticks used by the writer were made of hard maple $\frac{1}{4}$ inch thick and one inch width. They may be made to give their tone by dropping them on a hard, unyielding surface,—or they may be mounted on their nodal points as in a xylophone. For the latter case, they should rest on a yielding support, a small rope resting on a board, and should be struck by a yielding hammer rather than a stiff one.

The project might be extended to a study of circular plates, since the law of vibration for this case is quite similar to that for vibrating sticks; namely, the frequency varies directly with thickness and inversely with the square of the diameter. Square plates could be tested nicely by Chladni figures, as described in text books.

16. SOCIAL SCIENCE SECTION

The Social Science Section was called to order by the Chairman, Mr. Flanigam. The letter from the Director of the Conference asking the cooperation of all teachers to make the meeting a success and to distinguish this from all other ordinary and usual meetings, was read by the Chairman.

Earl U. Rugg of Oak Park addressed the section on the topic "The Character and Value of Existing Standardized Tests in History."* Mr. Rugg spoke of the various tests that are being used and gave helpful criticisms of the same. Outlines of his speech distributed among the audience enabled the audience to follow him closely. He also spoke of the amount of labor required by himself and his colleagues in preparing a test in history, to say nothing of the expense involved.

Before opening the discussion on Mr. Rugg's address, registration cards were distributed, filled out and collected. Prof. Greene urged the teachers to subscribe for the Historical Outlook. Announcement was also made of the opening of the museum to all visitors.

Mr. Miller of Elgin opened the discussion. Mention was made of the value of standardization tests to the administrative officers. They would give to such officers an idea of the time spent upon and emphasis

*For the full copy of Mr. Rugg's paper see School Review for December, 1919.

of certain phases of history. The tests should eliminate the unimportant, and give to the student the historical experience so necessary. A series of tests ought to be given to determine the rank of pupils, one being insufficient to ascertain the standing of each in memory, thought and reason. Mr. Miller would urge each teacher to design a test, try it out, and report the results to the committee working on standardized tests.

Mr. Fulwider of Freeport dwelled upon the difficulties of standardizing tests. Teachers in High Schools are not equally prepared. Work can be correlated and several teachers can work together. Here again another difficulty arises. The personnel of the High School faculty changes frequently and what is done in 1914 may not be done in 1919.

Nevertheless tests have their value. They stimulate and create interest and action. The pupils are bound to gain. Hence they have a place in the classroom.

Miss McKinsey, Centralia, asked how much might be expected as the result of a test, to which Mr. Rugg replied that not much information was retained, and that one should not expect more than fifty per cent to be retained.

Miss Ulrich, Oak Park, asked if anything had been adopted that had become authoritative; that there seemed to be a lack of unity since one author did not emphasize the subjects treated exhaustively by another. The test under such conditions might be very unfair.

Mr. Rugg replied that nothing had been adopted. That the only way was to analyze text-books, mentioning his own efforts along this line on the Colonial period only. That the work could profitably be divided among committees. Some one stated that a committee was at present at work on a revision of the High School Curriculum in which the high points were to be considered.

This looked as if the teacher might be guilty of priming pupils to answer questions on these emphasized subjects, to which Prof. Greene asked if any harm would be done in doing so. Other questions were raised as: "To what extent has distinction been drawn between grade and High School pupils?" "Has any one tried giving the test before the course opens?" "Should a teacher neglect facts, considering everything a problem to be solved by the pupils?"

The replies in order were that reasoning ability differs, that High School pupils are better able to discriminate and differences are noticeable in treating the same subject; that the method of testing before the course opens has been neglected; that philosophy should not be inflicted upon the pupils. Certain facts must be taught, for we are yet preparing pupils for colleges. That reasoning is something we do by using facts, though one may have the facts and not use them in reasoning.

Dr. Cole stated that a danger lay in the tests since they called for isolated facts, and that the "Why" is always important.

The morning session here adjourned.

The meeting was again called to order at two o'clock. Dr. Buckingham addressed the assembly on "Indices of Efficiency in the Teaching of History."* This was a continuation of the morning's work, with emphasis on the test of Von Wagenen which Dr. Buckingham had used in local High Schools. He pointed out the faults of such a test, saying, however, that this test was the best he had found. The criterion of any test is that it should measure what we wish it to measure.

Miss Jessie McHarry of Pontiac stated that the test was a means to an end. That some teachers stressed thought, others memory. Both are necessary.

Miss Gaynor thought it necessary to know the minimum essentials and raised the question, "What are these essentials?" Also that there were other aims than efficiency in fact gathering, as for example, citizenship. And how test for these other things?

Dr. Gray of Chicago reminded the audience that facts are divided into two classes; i. e., those committed and those derived from the recitation, starting with the big question; 75 or 80 per cent of facts in history come through reflection and reasoning.

Dr. Cole added that the proposition was not so much fact-getting as the utilization of these facts. A body of isolated facts is of no value whatever. Pupils ought to forget non-essential facts and learn to discriminate.

Prof. Larson agreed that facts were important but the interpretation of the same more important. We study history because we want to know about the world in which we live. The pupils might well be given the facts and the question "Why" put to them. That standardized tests are not to be regarded too seriously for it is difficult to know the educational background of individuals. The selection of questions in this case would change every month.

A very good suggestion was made by Miss Wilson of McKinley High School, Chicago, that we should keep in mind the name of the section, "Social Sciences," and make history one of them.

Dr. P. V. B. Jones was nominated and elected secretary to succeed Dr. Cole, whose term of office expired this year.

The meeting was then adjourned.

EUNICE WALKUP, *Secretary.*

*This paper is given below in full.

The following is a complete copy of the paper read by Dr. B. R. Buckingham, Director of the Bureau of Educational Research:

Indices of Efficiency in the Teaching of United States History

The subject, according to the program, which I shall discuss this afternoon was handed in long before the present paper was written. Now, however, I am in something of a dilemma. On the one hand, I want to stick to the announced topic. On the other hand, the material which I have lately gathered, points in a somewhat different direction. In this situation I shall probably do as the student in one of our denominational colleges did when he was confronted with an examination in biblical literature. The professor of "Bib Lit" had a habit of repeating his questions year after year; and while our hero had kept himself moderately free from contact with the course, he nevertheless aspired to pass the examination. Accordingly, he displayed surprising industry in looking up the answers to the professor's favorite questions. One which seemed to be in particular favor with the professor was, "Name the Kings of Israel." Accordingly, the ertswile negligent, but now diligent student made himself letter perfect in the eupheneous names of the Jewish sovereigns. But the professor did not keep the faith. Indeed, he might be said to have doubly crossed the crafty student. Instead of asking for the kings of Israel, he asked for the major and minor prophets. Now the luckless student knew not either the major or minor prophets. His resourcefulness, however, was equal to the occasion. He wrote: "Far be it from such as I to draw invidious distinctions between the godly patriarchs of old. The kings of Israel were as follows."

So, if "Indices of Efficiency" is the required topic, far be it from me to deny it as a topic, and what I have to say is as follows:

In 1915 I submitted certain fact questions and certain thought questions to some elementary school children in New York. A little more than a year later I gave a different series of fact and thought questions to elementary and high school pupils at Madison, Wisconsin. I found a correspondence between the ability to answer these fact and thought questions which may be mathematically expressed by a correlation coefficient of about +0.4. I at that time analyzed the mutual implications of thought scores and fact scores and I found that success in answering the fact questions implied success in answering the thought questions much more strongly than success in answering the thought questions involved success in answering the fact questions. I found that if one child scored a point higher than another on the fact questions he would also, on the average, score 0.89 of a unit higher on the thought questions. From these facts I derived an equation which would permit the probable score in the thought questions to be forecast from a known score in the fact questions with the chances even that the prediction would not vary more than two out of a possible twenty points from the score which would be obtained by actually administering the thought questions. I concluded that "a test of the memory ability of school children in history affords a reasonably accurate indication, not only of memory ability itself but also of ability to think."

This conclusion was, as I stated at the time, based upon the assumption that my fact questions really measured knowledge of historical facts and that my thought questions really measured power to think about historical data.

It is now several years since Dr. Van Wagenen, then a graduate student at Teachers' College, Columbia University, began his studies in the testing of history. After his work was done, many delays prevented the publication of his tests and the monograph about them. The tests, however, have now appeared and the monograph is in the hands of the printer.

Without doubt, this is the most extensive test of historical ability that has yet appeared. We shall do well to use it and quickly to establish standards of

achievement in terms of it. Dr. Van Wagenen has done this, but only with reference to the elementary school. The monograph which describes the tests is entitled "Historical Information and Judgment in Pupils of Elementary Schools." It is now in the form of page proof, and will appear as No. 101 of the Contributions to Education published by Teachers' College, Columbia University. In this monograph, then, we have the distributions and standards for grades IV to VIII of the elementary school. Before noticing these standards and drawing any inference about them, we should observe what the Van Wagenen Scales are. They consist of two tests for information, two of thought, and two of character judgment. The pairs of tests for information, thought, and character judgment respectively are designed to be essentially parallel forms.

In his monograph, however, Dr. Van Wagenen gives the scores for the two information scales combined, for the two thought scales combined, and for the two character scales combined. The class scores, therefore, are practically double what they would be for a single scale. Since each scale runs to considerable length, it is unlikely that schools will often find either the time or the money to spend in giving the entire series of scales. The following are some of the facts concerning the grade standards. Remember that the figures are practically double what they would be for a single information, thought, or character judgment scale.

The medium for the fourth grade on the two information scales combined was 9 questions correct. It increased by increments of about 6 questions per grade to a medium for the eighth grade of 32 questions correct. This would mean approximately 16 questions correct on a single information scale. Apparently, the high school children whom I lately tested did not do quite as well. Their average number of questions correct was 14.

Van Wagenen found that on the two thought scales combined, the eighth grade medium was 36 questions correct. This means about 18 for the eighth grade on one test. The high school children did somewhat better, their average being 21. On the two character judgment scales combined, the median for the eighth grade was 22, or about 11 for a single scale. Again the high school children did better, their average being between 15 and 16 questions correct.

Bringing together, then, our comparisons with the eighth grades, we may say (1) that on the information test the eighth grade median was 16, the high school average 14; (2) that on the thought scale the eighth grade median was 18, the high school average 21; and (3) that on the character judgment scale the eighth grade median was 11 and the high school average 15.5.

As Van Wagenen says, the essential features of a scale in United States history are first, that the administration and scoring of the test be convenient; second, that the tests be capable of extension by the addition of other tasks and the creation of alternative forms; third, that the measures be sufficiently precise; fourth, that the tasks draw upon ability in history rather than reading ability or general intelligence; and fifth, that the tasks be symptoms of important abilities sought in the teaching of history.

I shall dwell somewhat in detail on the last two points without attempting to say much on the first three. With respect to them, however, I shall simply make the following observation: In my judgment the tests meet fairly well the first requirement in that the giving of the tests is simple and the scoring reasonably objective. It takes from forty to fifty minutes to give one of the tests and no elaborate directions are necessary. Acceptable answers are provided in the monograph, although it seems to me that experience will require the revision of some of them. On the second point the tests certainly qualify, for they may easily be extended and alternative forms created. The tests also meet the third requirement in that, owing to their length and variety, they provide measures of a relatively high degree of precision.

I have said that the tasks should be symptoms of important abilities sought in the teaching of history. The nature of the tasks assigned in these scales is intended to be indicated by their names—information, thought, and

character judgment. Are these then symptoms of desirable ability sought in the teaching of history? Do we wish children to know the facts, to be able to think with reference to historical events, and to judge concerning historical characters? I think you will all agree with me that we do desire these things, but are there not others which we also desire? Do we not wish our pupils to grasp the meaning and significance of historical situations, to apprehend changing standards of life, to judge the reliability of historical material or evidence, to distinguish between statements of fact and statements of opinion? These are almost exactly Van Wagenen's own words, and after suggesting these additional abilities, he frankly says that no attempt is made in his scales to measure them. Doubtless, we could extend the list to cover a much larger range of desirable knowledge, skills, and attitudes which we hope to engender in our teaching of history.

But is the pursuit of this analysis necessary? Do we require that a test should contain tasks calling into play all the desirable outcomes of history teaching? Are there not some few simple reactions which are symptoms or indices of good training in history?

It is my belief that there are such simple but significant reactions. For several years I have been giving attention to testing in history and I find no type of testing material as adequate for the purpose as the testing of facts. I have found that the child who is well informed is the child who thinks truly and judges well within the field of history. In Dr. Van Wagenen's monograph he states that the average correlation between success in answering his information or fact questions and success in answering his thought questions is 0.81. He also finds that the correlation between ability to answer the information questions and ability to answer the questions on character judgment is 0.71. I presume I need not explain the general bearing of these figures. Perhaps it is sufficient to say that the relation is so close (particularly between information and thought) that the two sets of scores tell practically the same story—in other words, that, after having given the Van Wagenen information test, to give his thought test adds very little to our estimate of the ability of pupils in history.

In saying that a knowledge of facts or—as Van Wagenen calls it, of information—is symptomatic of higher abilities in history, I am aware that I appear to transgress some of the progressive doctrines to which you all subscribe. The transgression is, however, more apparent than real. In the first place, I extend the term "facts" far beyond the mere giving of names or dates. Indeed, I am prepared to maintain that many items, which Van Wagenen and others include under titles other than those of fact or information, are in reality essentially factual. For example, consider the Van Wagenen Thought Scale A. On the first page there are seven questions. The first reads as follows: "Before the steamboats were made people used to travel on the ocean in sail boats. Steamboats were not made until a long, long time after the European people came to make their homes in America. How do you think these early European settlers came to America?" The correct answer is "in sail boats," and a correct response may be made without any reference to history whatsoever. A knowledge of reading and a certain level of intelligence are all that are required.

The second question reads: "A little before the year 1500 the people of Europe were anxious to find a new way to get to India. Some people thought that India might be reached by sailing westward across the Atlantic Ocean. Columbus was one of these people. It was at this time that Columbus found America. What do you think Columbus was looking for when he found America?" In his list of answers Van Wagenen allows three credits (i. e. full credit) to any of the following responses: "A short route to India;" "India;" "Western passage to India;" "Western route to India;" "Northwest passage to India;" "New way to India;" "A way to India;" "An easy way to India." He gives two credits to the following: "Indies;" or "East Indies;" he gives no credit to "Asia" or "A passage to the west." Here it is not only true that all the facts are supplied in the question so that the correct answer merely implies a correct reading, but it is also true that a knowledge of history is a possible detriment to the

child who attempts to answer the question. "What," the child is asked, "do you think Columbus was looking for when he found America?" If he replies "Indie," he gets full credit. If he replies "Asia" he gets no credit. The only apparent reason for this is that the paragraph on which the question is based mentions India but does not mention Asia. On this basis the following answer made by a high school pupil was marked wholly wrong: "I think he was looking for a passage to Asia as the old passage was blocked by the Turks at this time."

The third question on the Thought Scale reads: "A hundred years ago it took a letter several days to go from New York to Boston. Today it takes only a few hours. Why do you think it took letters so much longer to go from New York to Boston 100 years ago than it does today?" Here we have an entirely different order of question. The facts are not supplied as in the first two questions. Reading ability will help no more than it helps to get a true statement of the conditions and requirements. But upon what does the ability to answer the question correctly depend? Does it not clearly depend upon a knowledge of facts? Listen to the answers given by Van Wageningen as entitled to full credit, "A hundred years ago there were no railroads;" "no trains or steamships;" "travel by stage coach or horses."

Question four again gives all the facts. It reads: "The Northmen probably came to America as early as the year 1000, nearly 500 years before Columbus and the Cabots sailed from Europe. There is no record of any one else having come to America before the year 1000. By whom do you think America was first discovered?" The answer which the data supply is "the Northmen," and this is one of the answers for which full credit is given. Full credit is likewise given for "Vikings" and for "Lief Ericcson," although in giving credit for these answers, the author is not consistent with his failure to give credit for "Asia" as the answer to what Columbus was looking for. Neither Vikings nor Lief Ericcson are contained in the facts supplied. It is true, they are correct answers, but so also was "Asia." If we ask what enables a child to answer Vikings or Lief Ericcson are we not obliged to say that it is a knowledge of facts? So we have in this case a question, success in which depends upon reading (the Northmen) or upon knowledge of facts not given in connection with the question.

Question five reads as follows: "In 1793 Eli Whitney invented the cotton gin, a machine for separating the cotton seed from the fiber. By the use of this machine, one slave could clean fifty times as much cotton in a day as with the old machines or by hand." Three questions follow based upon this paragraph. They are all of the same character. I shall give only the first one. It is: "What effect would this invention have upon the cost of raising raw cotton?" What are the conditions for success here? They are first, the facts recited in the preamble to the question and some inference from the facts in fields where history plays little part. The various correct answers all contain the notion that the effect would be a reduction of cost. Why this is true depends upon laws which operate in the field of economics. I think this question is indeed a thought question and it is the first in the test which can really qualify in that respect.

At the risk of being tedious I shall take the sixth question in order. It reads: "In 1800, Spain gave Louisiana up to France. The United States, fearing that France might set up a colony and control the Mississippi River, was anxious to get Louisiana. In 1803 Napoleon of France feared that Great Britain was about to seize his American territory. What would you expect Napoleon to do?" The full-credit answers are "Sell it to the United States (or to America); sold it to the United States." Observe that certain facts are given in connection with the question. A child is then asked what he would expect Napoleon to do. If he answers "I would expect him to defend it," he gets no credit. Yet such an answer would be a reasonable inference from the premises. It does not, however, happen to be in accordance with the facts. To the extent that the facts as given force a correct inference, we may be dealing merely with the operations of intelligence. Do we test the teaching of history when we so

martial data as to compel but one correct inference? On the other hand, do we test thought when we martial facts and expect an inference in conformity with other facts not given? In other words, must the child draw the same inference that Napoleon did?

Thus one may go through the Thought Scale and find very few questions which may not be classified in either of the following ways: first, questions whose successful answers depend upon reading the facts given as part of the question; second, questions whose successful answers depend upon a knowledge of the facts of history; third, questions whose successful answers depend upon thought processes on non-historical data.

I do not wish to spin this matter out to undue length although I should like to investigate the elements necessary to success in the Character Judgment Scale. I am going to content myself with merely the first question of this series. It reads: "In 1772 there was a frontier wedding. The guests had come from many miles. After a night of rough merriment and dancing the guests lay down to sleep under the roof of their host or in the nearby barns and sheds. When morning came two of their horses were missing. Not doubting that they had strayed away, three of the young men started out to find them. Soon several gunshots were heard and the three young men did not return. Believing that it was a small scalping party of Indians, eight or ten more mounted horses that stood saddled before the house and galloped across the fields in the direction of the firing; while others ran to cut off the enemy's retreat. Draw a line under three of the following words which you think best describe the action of these white men: indifferent, cowardly, cautious, polite, brave, courageous, spiteful, fearful, daring, timid."

Those of you who are familiar with the Kansas Silent Reading Test and with Monroe's Silent Reading Test will recognize that this might have been taken directly from either of them. Success essentially depends upon a thoughtful reading of the given data. The data may be true or false, past or present, real or imagined. I venture to believe that any person of good intelligence can answer questions of this sort whether he has ever been instructed in history or not. In other words, it is probable that the Character Judgment Scale would make a good reading test or a good test of general intelligence.

What, then, is left for us to avail ourselves of? We find that in this, the most extensive of our history tests, either facts are asked for or given as part of the question. In the latter case, answers that depart from the data as given are seldom permitted. We have, therefore, essentially this situation: we are either testing facts or a composite of reading and mental ability. I can see very little difference between asking children "What *would you expect* Napoleon to do?" and asking them "What *did* Napoleon do?" especially as the acceptable answer to the former question is also the correct reply to the latter. Instead of asking "Why *do you think* it took so long to go from New York to Boston?" we might just as well ask, "Why *did* it take so long?" for what we require is a statement in accordance with the historical facts. Why not ask "What *was* Columbus looking for when he found America?" rather than "What *do you think* he was looking for?" when in either case we require the answer "India" or words to that effect—an answer, in other words, in conformity with the facts. The thought is all gone if, on the one hand, we supply all the preliminary facts in the question and, on the other hand, require a rigid conformity to the facts in the answer. Nor is the thought element introduced merely by phrasing the question in the form "What would you expect?" or "What do you think?"

These observations on Van Wagenen's questions do not have exclusive application to him and his method. A half dozen others have followed much the same lines. Indeed, I have myself. There is, however, this difference in my own case. I knew I was doing it and I pointed out the truth which I believed to be essential, namely, that testing for facts is a sufficient index of the abilities, knowledge, and attitudes which we wish to indicate in the teaching of history. I pointed out, and I point out now, that facts are more than dates and names.

They may be facts of relation, of sequence, of causation. Thus they may be made to cover most of what the investigators believe they are covering when they name their questions, thought questions. I think I have sufficiently pointed out that these thought questions generally do either one of two things. They either give the facts and ask an inference, in which case they measure reading ability and intelligence, or they require facts. Sometimes they do both as I have pointed out above.

Let us now return to the use of the Van Wagenen Test which we made last week in a city high school. The tests were given to all pupils who were studying United States history. There were in all 77 pupils, 71 of whom were present at the information test, 75 at the thought test, and 74 at the character judgment test. Preliminary to the testing, the teachers of the classes were asked to rate each pupil for general ability in history on a five-point scale, rating the best pupils 1, the next best 2, and so on down to the poorest who were rated 5. Eleven of the pupils were rated 1, 22 were rated 2, 28 were rated 3, 10 were rated 4, and 6 were rated 5. The average of the ratings was 2.7. If we are justified in thinking of a rating of 3 as, in general, that of an average pupil, we can infer that the teachers regarded this group of pupils as slightly, although not significantly, better than average. There was no evidence of the marked tendency which some investigators have found for the teachers to rate the pupils unduly high.

There were, however, surprising differences between the estimates of the teachers and the scores made by the pupils on these tests. This, let me hasten to assure you, is no indictment of the ability of these teachers to rate their pupils. In fact, in my judgment the ratings were better than teachers usually make. If, therefore, I point out some of the discrepancies between the teachers' ratings and the test scores, you are to understand that teachers in general would probably evince the same or greater differences. We must also remember that in all cases of teacher estimates, the teacher takes into account some factors which the tests do not. Moreover, we must bear in mind that these classes have covered but a portion of the high school course in United States history and that, therefore, there were many items on the test which the pupils had not recently studied.

In making the statements which will follow, wherever scores in the several tests are mentioned, it is to be understood that they are not the numbers of questions answered correctly but the total credits. According to Van Wagenen's scheme, each question has a maximum of three credits. For many questions two credits or one credit may be allowed for partially correct answers. At the conclusion of the rating of a pupils' paper the total of these credits is, according to Van Wagenen's plan, divided by three to express the number of questions answered correctly. For example, if a child scored 42 in the information test, he would be rated 14 by Van Wagenen. Seeing no particular advantage in this and some disadvantages, I did not use the author's plan but in the supposed instance I should have rated the pupil 42. All my scores, therefore, should be divided by three to reduce them to the scores which Van Wagenen used.

As to the relation between teachers' judgments and scores in the information test, I may observe that those whom the teachers rated 1 ranged in scores from 62 down to 33. The maximum possible score was 102. The pupil who scored 33 but who was rated 1 by her teacher, entertained such notions as these: that iron war vessels first came into use in the World War; that the telephone was invented between 1835 and 1845; that Lee was the president of the Southern Confederacy; that General Thomas won the Battle of Cowpens; that Perry was the hero of the Battle of Manila, and Farragut of the Battle of Buena Vista; that the Southern States were in favor of the Wilmot Proviso; that the Spanish-American War took place during Taft's administration; and that the Monroe Doctrine was asserted in the Venezuelan dispute by Monroe. This same pupil did not know who led the American forces at the Battle of Yorktown, or who

laid the first successful Atlantic cable; did not know the leader of the Federalist party or the champion of the Missouri Compromise.

On the other hand, this pupil whose shortcomings I have been revealing, stood very high in the thought test and also in the character judgment test. Only five of the 75 children who took the thought test surpassed her, and no one of the 75 who took the character judgment test scored higher than she did. Shall we say then that the teacher's judgment was vindicated since it was based on the ability to think and to judge character in the field of history? I have read over critically the responses of this pupil to the thought and character judgment questions. I can see little in them which may not be accounted for by a good level of intellectual ability accomplished by a particular manifestation of that ability, namely the ability to read understandingly. She said the early European settlers came to America in *sail boats*; that Columbus was looking for *India*, and that America was first discovered by the Northmen, because she had just read these facts. She said she would expect Napoleon to try to protect Louisiana—which was a perfectly good thought response, but unfortunately, at variance with the facts as they occurred. She missed two of the questions as to the effect of the invention of the cotton gin, because she had not the knowledge of economic fact necessary for success.

On the information test, the scores of children rated 2 by the teacher's judgment ranged from less than 20 to more than 60. In other words, they ranged from the very lowest to the very highest group into which the information scores have been classified.

From these statements, you will be prepared to accept the general conclusion that the teachers' ratings were quite at variance with the success of the children in answering the information questions. Those of you who are familiar with the meaning of correlation coefficients will get a notion of this lack of correspondence when I say that the correlation between teachers' judgments and information scores was $+0.29$.

Although the case of the pupil whose scores I have analyzed would seem to indicate that the teachers' judgments were more likely to conform to the thought scores, the facts, when all the students are taken into account, do not seem to bear this out. I could indicate in detail many instances of the lack of correspondence in this respect. For example, children whom the teachers rated 5 ranged in thought scores all the way from below 40 to above 70, where 87 is the maximum possible score. More than half of the pupils whom the teachers rated 1 did not do as well as the most successful pupil whom they rated 5. Again, however, the correlation coefficient will indicate better than any verbal statement the degree of relationship between the teachers' estimates and the thought scores. It was $+0.36$. This indicates that the correspondence between teachers' judgments and thought scores was but little if any closer than it was between teachers' judgments and information scores.

The same lack of correspondence is found between teachers' estimates and scores in character judgment. The correlation coefficient was $+0.27$. This indicates that little as did the teachers' ratings depend upon ability to answer fact and thought questions, they depended still less upon ability to judge historical characters—at least, this is the indication if the tests of thought and character judgment really test those abilities.

The lack of correspondence between teachers' estimates and either one of the three kinds of scores may be due to the instability or erratic character of the scores quite as much as to the same quality in the teachers' estimates. There is nothing, at least in the correlation coefficient, to indicate which of the two measures compared is the more unstable.

Accordingly, I have combined the scores of each pupil on information, thought, and character judgment into one score which probably indicates, more accurately than does either one of the three separate scores, his ability in history. I have also related the teachers' estimates to these composite scores. The corre-

spondence is better, although it is by no means close. For example, children who secure average composite scores secure teachers' estimates ranging all the way from 1 down to 5. On the other hand, children whom teachers rate as average (i. e. those whom they rate 3) range in composite scores all the way from less than 100 up to 182—and the latter score was so high that only two pupils of the 67 who took all the tests scored higher. The correlation coefficient between teachers' estimates on the one hand, and the composite scores on the other was $+0.46$.

I believe these teachers' judgments were thoughtfully made. Both the principal of the school and the teachers of history were eager to conduct the test with scrupulous care. The discrepancies, therefore, which I have pointed out may be expected to be equaled or exceeded in any high school taken at random. Personally, I believe that the scores in the tests are very much superior to the teachers' estimates as expressions of ability of the children, but this is no more than to say that teachers of history in general will find standardized tests in history helpful.

Moreover, in spite of all that I have said, I believe the Van Wagenen tests are better instruments than any now available. I believe the thought and the character judgment tests are not well named and I think I have fully indicated why this is so. I take the attitude that whatever may be the desirable outcome of the teaching of history, it is not necessary that a test should require reactions of the same kind. It may, to use Van Wagenen's own phrase, require reactions which are symptomatic of the abilities we desire to inculcate. In other words, I think we shall have to distinguish between the content and the method of *teaching* and the content and method of *testing*.

As to indices of efficiency in the teaching of history (if I may at this late moment revert to the title of my talk), I have indicated pretty clearly, I think, that the character judgment and the thought questions are surcharged with fact elements; that they test abilities not specifically in the field of history; and that, in particular, they call upon the ability of children carefully and comprehendingly to read the question. I therefore advance the proposal—a proposal which I feel sure many of you will not agree with—that no matter what the content and method of our teaching may be, the content and method of our testing will be properly concerned with the facts of history although we may give these facts an extended meaning.

In support of this I offer one final bit of evidence. I examined the scores of the children in the high school in information and in thought and character judgment combined. I found that the correlation between success in answering information questions on the one hand, and the composite success in answering thought and character questions on the other hand, was $+0.61$. By a statistical analysis which I shall not at this point enter into, but which is perfectly straightforward and in current use, we are able to infer from the scores in the information test what the combined score in thought and character judgment would be likely to be. Indeed, we are able to express the inference in the form of an equation. The equation is as follows: Y (the score in thought and character judgment combined) $= 72.8 + 0.9 x$; where x = the score in the information test.

Permit me to make a specific application of this. I have the scores of the high school children on cards, alphabetically arranged. The first pupil—i. e., the pupil whose scores were entered on the top card as these cards lay before me—had a score in the information test of 33. Substituting this for x in the equation I have just read, we find that $Y = 103.5$. This is the inferred score in thought and character judgment combined. The card shows that the real score was 100. In other words, our equation gives a result which differs from the true one by only 3.5 in a test whose maximum score is 144.

But the prophesy does not always work as well as this. The second pupil in the alphabetical arrangement scored 36 on the information test. When this

value is substituted in the equation, it yields a theoretical score of 105.2. The real score was 114. Thus the prophesy is 8.8 units less than the actuality.

It will be interesting to have a general expression for the accuracy that a teacher may expect from the use of the equation I have given. I am assuming that a teacher gives the Van Wagenen information test only and wishes to infer the most probable score in the combined thought and character judgment tests. The equation will then give the score that on the average will be obtained by giving the thought and character judgment tests a large number of times. In any individual instance the chances are even that the score obtained from the equation will differ from the score obtained by actual testing by not more than eight units, or since there are 144 units in the combined tests, the chances are one to one (or we may say an even bet) that the inferred score will be within about five per cent of the true result.

This paper is something of a protest against the activities of those who have sought to make tests all inclusive with respect to the desirable outcomes in the teaching of a given subject. The test makers have been scored and I think in many cases properly, for the "wooden" character of their tests. The criterion of a good test, however, is that it actually measures the thing we wish to measure. It need not do so directly. It may measure a simple ability which varies directly with the more complex ability which we wish to measure—just as the scale behind the mercury column in the thermometer measures directly the expansion of the fluid in the tube and thus indirectly measures the heat of the day. It is my belief that the facts of history constitute the simple phenomenon to which we can make a direct application of measurement and that the facts tend closely to vary with the other desirable abilities which in our teaching we seek to foster. A child may be able to reason about the two great parties—the strict-constructionists, and the loose constructionists—which arose during and after the adoption of the Constitution. But it is probable that the child who does not know the simple facts that Alexander Hamilton was the great Federalist leader and Thomas Jefferson the great anti-Federalist leader, will know too little about these parties to do any creditable reasoning about them. And so our indices of efficiency turn out apparently to be rather simple. In conclusion, however, permit me again to express the thought that we shall do well to extend the meaning of our term "facts." I once asked pupils to record their judgment concerning certain historical events by indicating their order of importance. There were 14 events and I asked the children to put a "1" in front of the most important, a "2" in front of the next most important, and so on. I maintain that this involved judgment of a certain useful sort. Now from one point of view, all recorded judgments might be regarded as equally correct. But I did not so rate the answers to this question; and it is precisely in the way questions are scored that the real nature of them is revealed. Here is a question which I think all of you will admit is a judgment question. But in rating it, I first obtained the consensus of 100 competent judges as to the proper order of arrangement. This afforded a basis for rating. A child's judgment must not deviate too greatly from that of competent people. For example, he must not judge that the making of the American flag by Betsey Ross was of more importance than the purchase of Louisiana, nor that the execution of Major Andre was more important than the opening of the Panama Canal. What I am driving at here is this, in handling the answers in this question, I had reduced the matter to a fact basis. The consensus of my judges was regarded by me as final and the order thus established was regarded as the true order. Deviation from it to more than an assigned degree meant failure.

Thus by one means or another thought questions, questions of character judgment, and all the varied types of questions may, it seems to me, be reduced to a fact basis. Mr. Rugg in some of his questions on the value of evidence does not depart from this fact basis. For example, two accounts of an event are given, one written at the time and the other years afterward. The pupil is asked

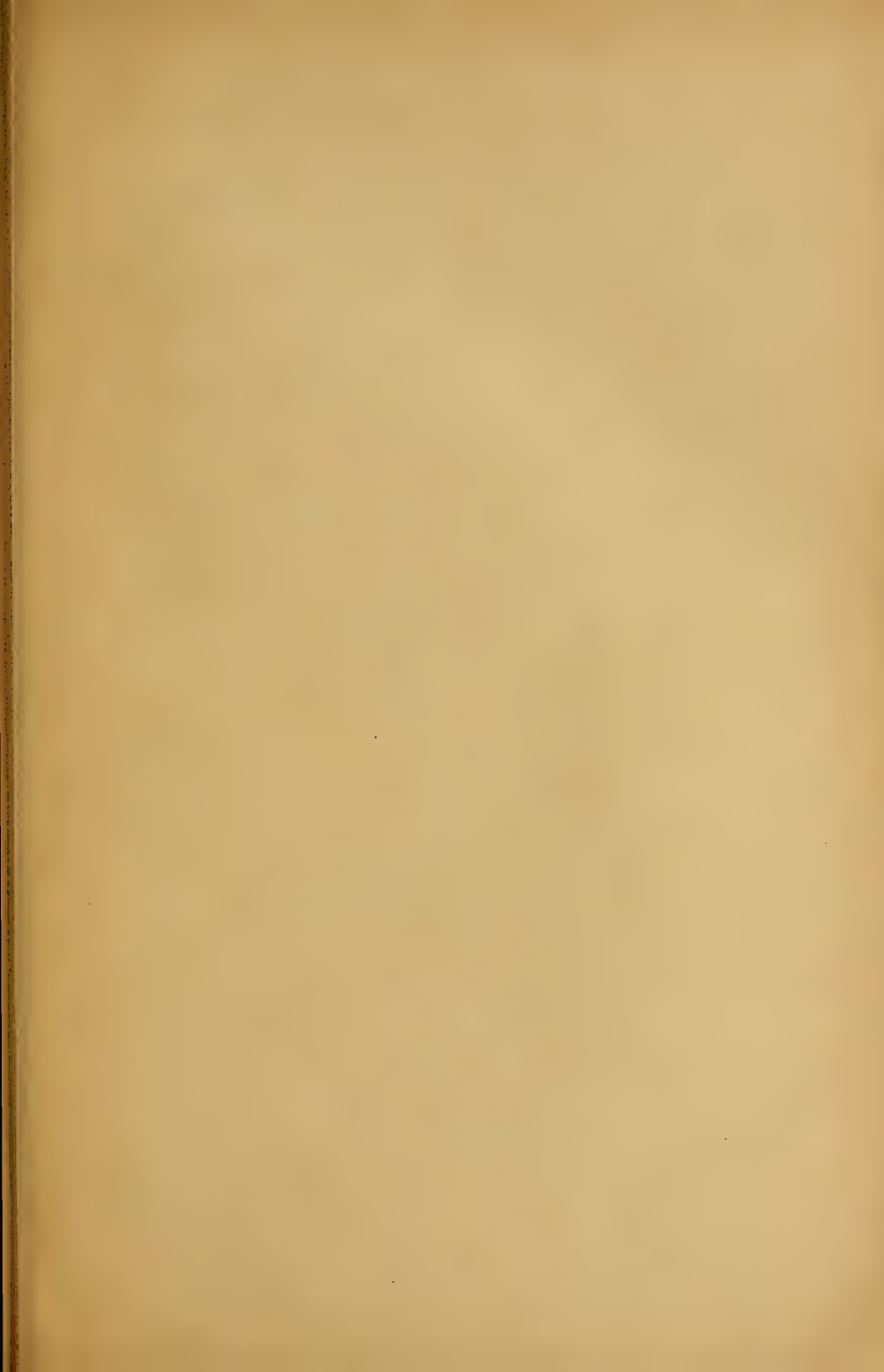
which is the better evidence. This is a question of fact. He is then asked why, and this, too, is a question of fact.

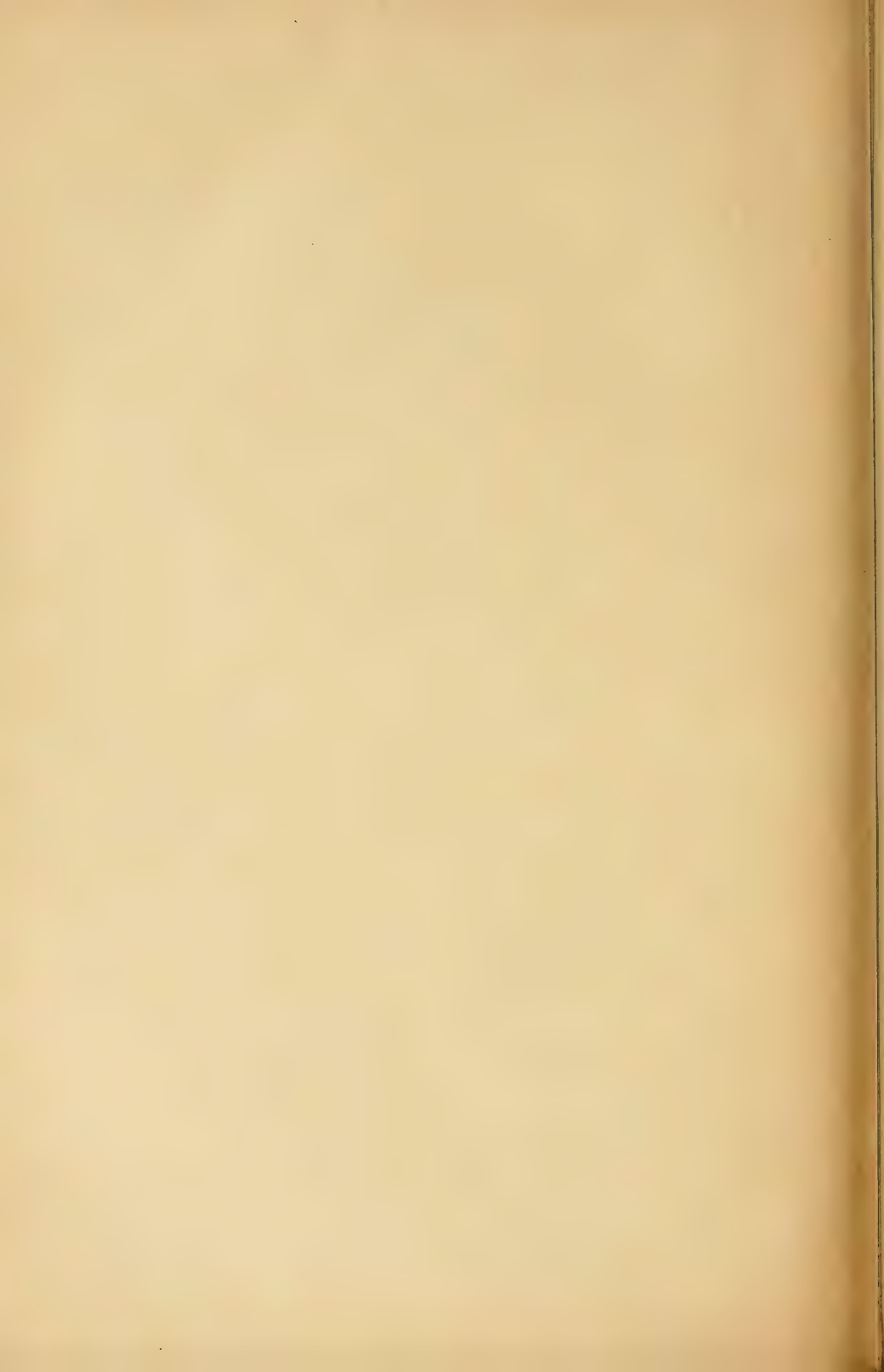
Like Gradgrind, therefore, we say "Facts, facts," but like Gradgrind was talking about something which in the days when he was created was unknown. Gradgrind wanted to teach facts and his grotesque notions about facts have made him famous. The ideas I am suggesting have no necessary reference to the teaching of facts. They merely set up the idea, from the evidence now at hand, that a knowledge of facts is an index of all-round ability in history. The facts which we use in the testing may be of events or characters, of causes or relationships; they may be big facts or little facts; but the choice of them should be guided by the significance which they have for this thing which I have just mentioned, all-round ability in history. The ultra-modern among history teachers may, if they choose, take the view that facts have little or no place in the teaching of history. Yet I fancy that an analysis of the examinations which these teachers give periodically will reveal that what they *test* is essentially a knowledge of facts, and we are confident that the success of what they teach in terms of the changes which are induced in their pupils may be reliably indicated by ascertaining what facts the pupils have at their command.

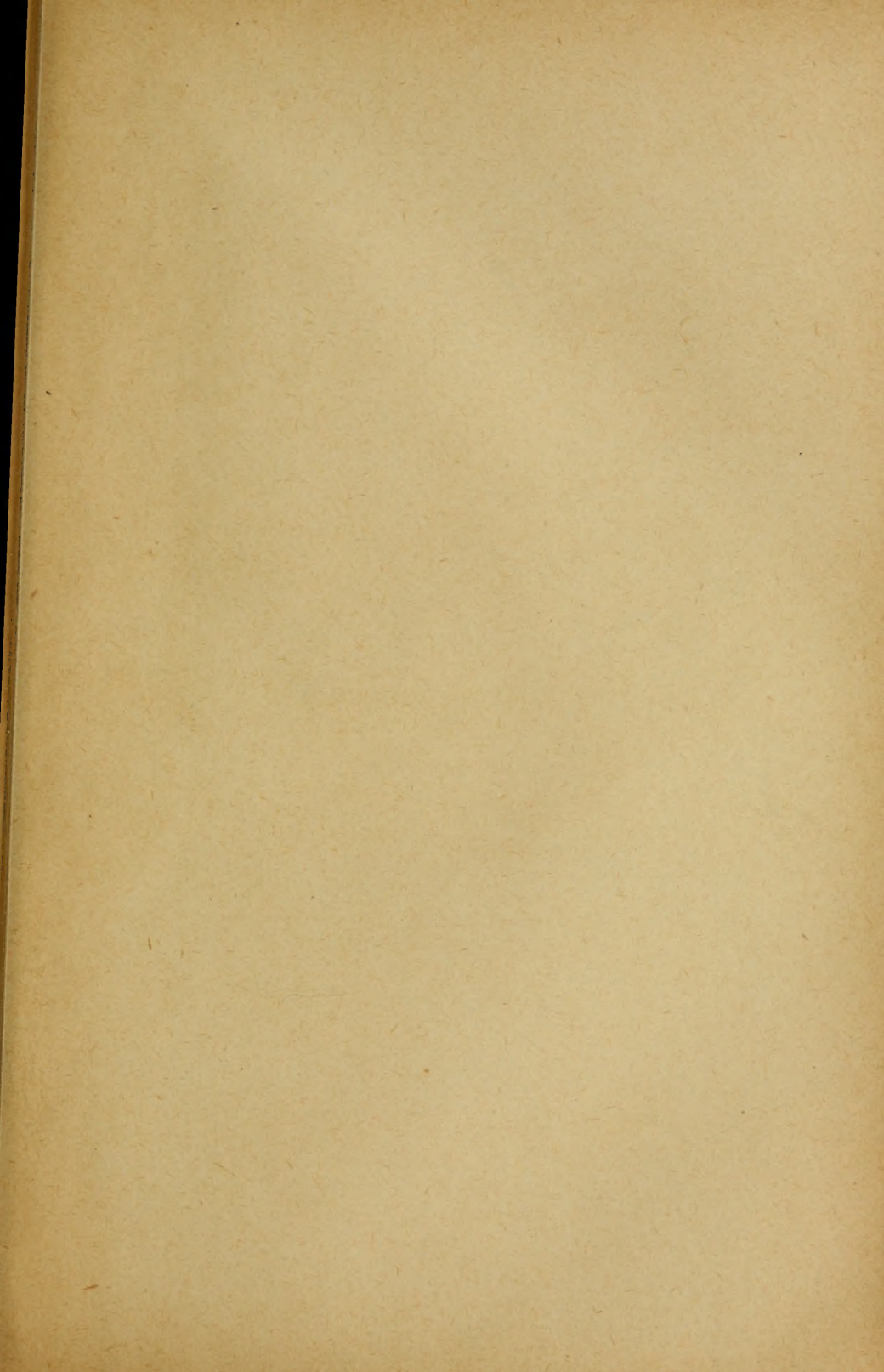


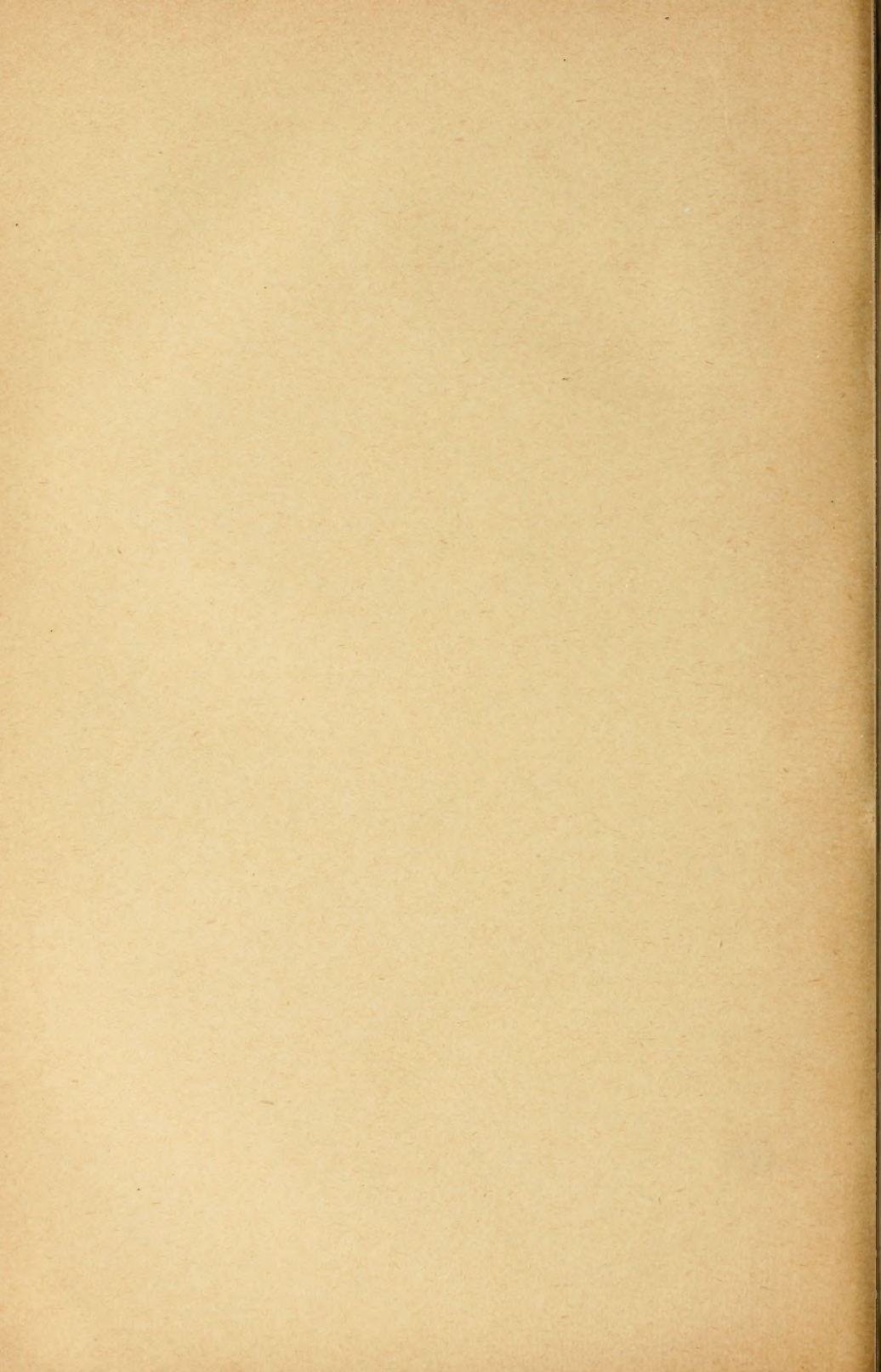












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